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Environmental Dosimetry
Reference Person

Retention Permanent

**SITE SPECIFIC REFERENCE PERSON PARAMETERS AND DERIVED
CONCENTRATION STANDARDS FOR THE SAVANNAH RIVER SITE**

Daniel K. Stone
G. Timothy Jannik

REPORT DATE: MARCH 2013

Savannah River National Laboratory
Savannah River Nuclear Solutions
Aiken, SC 29808

**Prepared for the U.S. Department of Energy Under
Contract Number DE-AC09-08SR22470**



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LIST OF ACRONYMS

ASER	Annual Site Environmental Report
CED	Committed Effective Dose
DCS	Derived Concentration Standard
DOE	Department of Energy
ED	Effective Dose
EPA	Environmental Protection Agency
FGR	Federal Guidance Report
ICRP	International Commission on Radiation Protection
MEI	Maximully Exposed Individual
NRC	Nuclear Regulatory Commission
SRS	Savannah River Site
SRNL	Savannah River National Laboratory
SRNS	Savannah River Nuclear Solutions
TED	Total Effective Dose

1.0 EXECUTIVE SUMMARY

The purpose of this report is twofold. The first is to develop a set of behavioral parameters for a reference person specific for the Savannah River Site (SRS) such that the parameters can be used to determine dose to members of the public in compliance with Department of Energy (DOE) Order 458.1 “Radiation Protection of the Public and the Environment.” A reference person is a hypothetical, gender and age aggregation of human physical and physiological characteristics arrived at by international consensus for the purpose of standardizing radiation dose calculations. DOE O 458.1 states that compliance with the annual dose limit of 100 mrem (1 mSv) to a member of the public may be demonstrated by calculating the dose to the maximally exposed individual (MEI) or to a representative person. Historically, for dose compliance, SRS has used the MEI concept, which uses adult dose coefficients and adult male usage parameters. Beginning with the 2012 annual site environmental report, SRS will be using the representative person concept for dose compliance. The dose to a representative person will be based on 1) the SRS-specific reference person usage parameters at the 95th percentile of appropriate national or regional data, which are documented in this report, 2) the reference person (gender and age averaged) ingestion and inhalation dose coefficients provided in DOE Derived Concentration Technical Standard (DOE-STD-1196-2011), and 3) the external dose coefficients provided in the DC_PAK3 toolbox.

The second purpose of this report is to develop SRS-specific derived concentration standards (DCSs) for all applicable food ingestion pathways, ground shine, and water submersion. The DCS is the concentration of a particular radionuclide in water, in air, or on the ground that results in a member of the public receiving 100 mrem (1 mSv) effective dose following continuous exposure for one year. In DOE-STD-1196-2011, DCSs were developed for the ingestion of water, inhalation of air and submersion in air pathways, only. These DCSs are required by DOE O 458.1 to be used at all DOE sites in the design and conduct of radiological environmental protection programs. In this report, DCSs for the following additional pathways were considered and documented: ingestion of meat, dairy, grains, produce (fruits and vegetables), seafood, submersion in water and ground shine. These additional DCSs were developed using the same methods as in DOE-STD-1196-2011 and will be used at SRS, where appropriate, as screening and reference values.

2.0 INTRODUCTION

The U.S. Department of Energy (DOE) Order 458.1 (DOE 2011) states that compliance with the annual dose limit of 100 mrem (1 mSv) to a member of the public may be demonstrated by calculating the dose to the maximally exposed individual (MEI) or to a representative person. Historically, for dose compliance, the Savannah River Site (SRS) has used the MEI concept, which uses adult dose coefficients and adult male usage parameters. Beginning with the 2012 annual site environmental report, SRS will be using the representative person concept for dose compliance.

The dose to a representative person will be based on 1) the SRS-specific reference person usage parameters at the 95th percentile of appropriate national or regional data, which are documented in this report, 2) the reference person (gender and age averaged) ingestion and inhalation dose coefficients provided in DOE Derived Concentration Technical Standard (DOE-STD-1196-2011), and 3) the external dose coefficients provided in the DC_PAK3 toolbox, which can be accessed at <http://www.epa.gov/rpdweb00/federal/techdocs.html>. The reference person is weighted based on sex and age and this weighting is based on the six age groups documented in International Commission on Radiological Protection (ICRP) Report 89 (ICRP 2002): Infant (0 years), 1 year, 5 years, 10 years, 15 years, and Adult. The various age- and gender-specific intake rates were proportioned to correspond with these respective age groupings.

Also developed in this report are SRS-specific derived concentration standards (DCSs) for all applicable food ingestion pathways, ground shine, and water submersion. The DCS is the concentration of a particular radionuclide in water, in air, or on the ground that results in a member of the public receiving 100 mrem (1 mSv) effective dose following continuous exposure for one year. In DOE-STD-1196-2011, DCSs were developed for the ingestion of water, inhalation of air, and submersion in air pathways, only. These DCSs are required by DOE O 458.1 to be used at all DOE sites in the design and conduct of radiological environmental protection programs. In this report, DCSs for the following additional pathways were considered and documented: ingestion of meat, dairy, grains, produce (fruits and vegetables), freshwater fish, and saltwater invertebrates, submersion in water, and ground shine. These additional DCSs were developed using the same methods as in DOE-STD-1196-2011 and will be used at SRS, where appropriate, as screening and reference values.

3.0 DOSE AND DOSE COEFFICIENTS

Dose is an important quantity in studying the impacts of radiation on humans and the environment. There are three dose quantities, defined in ICRP Publication 60 (ICRP 1991), used in radiation protection.

3.1 ABSORBED DOSE

Absorbed dose, D , is the total energy absorbed in to a mass of any material, and is a measurable quantity. It is defined in ICRP (1991) as the quotient of the mean energy ($d\epsilon$) deposited into a volume of mass (dm), seen in eqn 1. This quantity does not account for the type of radiation being absorbed or material type absorbing the radiation. The standard unit for absorbed dose is the gray (Gy), which is equivalent to 1 joule per kilogram (J kg^{-1}). The conventional unit is the rad, which is equivalent to 0.01 Gy.

$$D = \frac{d\epsilon}{dm} \quad (1)$$

3.2 EQUIVALENT DOSE

Equivalent dose, H , is a radiation weighted dose. Different types of radiation have very different biological impacts. Alpha radiation can be more damaging than gamma rays if the alpha emitting radionuclide is distributed within the biological material. To adjust the dose to account for these differences, the absorbed dose D is multiplied by a radiation weighting factor, w_R . The total equivalent dose is the sum of the dose multiplied by the radiation factor for each radionuclide, seen in eqn 2.

$$H = \sum_{i=0}^n D * w_r \quad (2)$$

Due to the weighting factor, equivalent dose is not a measurable quantity. The units for equivalent dose are the Sievert (Sv) and the Roentgen Equivalent Man (rem). One Sv is equivalent to 100 rem. Table 1 presents the radiation weighting factors, w_r , documented in ICRP (1991).

Table 1. Radiation Weighting Factors (ICRP 60)

Type of Radiation	w_r
Photons	1
Electrons	1
Neutrons	
- Less than 10 keV	5
- 10 to 100 keV	10
- 100 keV to 2 MeV	20
- 2 MeV to 20 MeV	10
- Greater than 20 MeV	5
Alpha Particles and Fission Fragments	20

3.3 EFFECTIVE DOSE

Effective dose, ED, is a tissue weighted dose. While equivalent dose is determined by the type of radiation, the effective dose is determined by what organ or tissue is receiving dose. Different types of tissue respond differently to radiation. Organs and tissues with fast cell cycles receive more damage than those of with slow cell cycles receiving the same effective dose. The tissue weighting factors are based on risk of total detriment, which includes probability of fatal and non-fatal cancer, probability of hereditary effects, and probability of length of life loss. The effective dose is calculated by multiplying the equivalent dose by a tissue weighting factor. This calculation is performed for each tissue and summed to calculate the total effective dose seen in eqn 3.

$$E = \sum H * w_t \quad (3)$$

This dose quantity is also unable to be measured. The units for the effective dose are the Sv and the rem, the same as the equivalent dose. The tissue weighting factors, w_t , documented in ICRP (1991) are presented in Table 2.

Table 2. Tissue Weighting Factors (ICRP 60)

Organ or Tissue	w_t
Gonads	0.2
Colon, red marrow, stomach	0.12
Bladder, Breast, Esophagus, Liver, Thyroid, Remainder	0.05
Bone surface and Skin	0.01

3.3.1 Committed Effective Dose

The committed effective dose (CED) is the dose received from an internal source of exposure to an individual over a given time. The CED is the effective dose for members of the public integrated over the course of 50 years for adults and 70 years for children and infants (ICRP 103). The definition of the CED has changed from previous ICRP publications. The committed equivalent dose is calculated using eqn 4.

$$H_T(\tau) = \int_0^\tau H_T(t) dt \quad (4)$$

where τ is the time in which the dose is integrated over. The committed effective dose can simply be calculated by multiplying $H_T(\tau)$ by a tissue weighting factor in the table above.

3.3.2 Total Effective Dose

The total effective dose (TED) is the sum of the effective dose from external exposures and the CED. The TED is used to demonstrate compliance with required dose limits. For members of the public, the doses can be determined by use of human health input parameters, population fractions, and dose coefficients. The combination of these factors comprises the representative person dose, which will be discussed in the next section.

3.4 DOSE COEFFICIENTS

In DOE STD-1196-2011, reference-person dose coefficients are provided for the ingestion of water, inhalation of air, and air immersion pathways. These coefficients were derived using the Dose and Risk Calculation (DCAL) System (Eckerman et al. 2006) and incorporate the nuclear decay data of ICRP Publication 107 (ICRP 2008). DCAL has been one of four software packages used in the production of ICRP publications of dose coefficients for inhaled and ingested radionuclides during the past twenty years. DCAL also was used in the production of Federal Guidance Reports 12 and 13 (EPA 1993, 1999).

3.4.1 Internal Dose Coefficients

The ingestion and inhalation dose coefficients for a reference person were developed using the age specific dose coefficients documented in the DC_PAK3 toolbox, which can be accessed at <http://www.epa.gov/rpdweb00/federal/techdocs.html>. The ingestion dose coefficients documented in DOE-STD-1196-2011 were developed for the water ingestion pathway, only. However, formal clarification that these water ingestion dose coefficients may be used for all ingestion pathways was provided by DOE-HQ in a memorandum from Andrew Lawrence (Director of the Office of Environmental Protection, Sustainability Support and Corporate Safety Analysis and the Office of Health, Safety, and Security) to David Moody (Manager of DOE-SR) dated January 9, 2013. This memorandum is attached in Appendix A. Also provided in Appendix A are the ingestion dose coefficients that will be used at SRS for demonstrating compliance with DOE O 458.1.

In Appendix B, the reference-person dose coefficients to be used at SRS for the air inhalation pathway are provided. These coefficients were taken directly from DOE-STD-1196-2011. However, only the ICRP 72 (ICRP 1996) recommended lung absorption type dose coefficients are listed. For the elements that do not have an ICRP 72 recommended absorption type, the maximum dose coefficient was selected and included in the Appendix B list. For tritium, the dose coefficient shown is for the oxide (vapor) form. For carbon, it is the dioxide form.

3.4.2 External Dose Coefficients

For external exposure pathways (ground shine, shoreline exposure, air immersion, and water submersion), age specific dose coefficients have not been developed. Therefore, there are no “reference person” external dose coefficients. The external dose coefficients to be used at SRS for demonstrating compliance with DOE O 458.1 are provided in Appendix C. These coefficients are taken from the DC_PAK3 toolbox and are based on FGR 12 methods, but like the internal dose coefficients they have been updated to incorporate the ICRP 107 decay data. The air-immersion dose coefficients are also documented in Table A-3 of DOE-STD-1196-2011.

4.0 MAXIMALLY EXPOSED INDIVIDUAL AND REFERENCE PERSON

During routine operations at SRS, limited amounts of radioactive materials are released to the environment through atmospheric and liquid pathways. These releases potentially result in a radiation dose commitment to offsite people. The principal pathways by which people are exposed to releases of radioactivity are:

- Inhalation
- Ingestion
- Skin absorption
- External exposure

Figure 1 is a simplified representation of the principal exposure pathways.

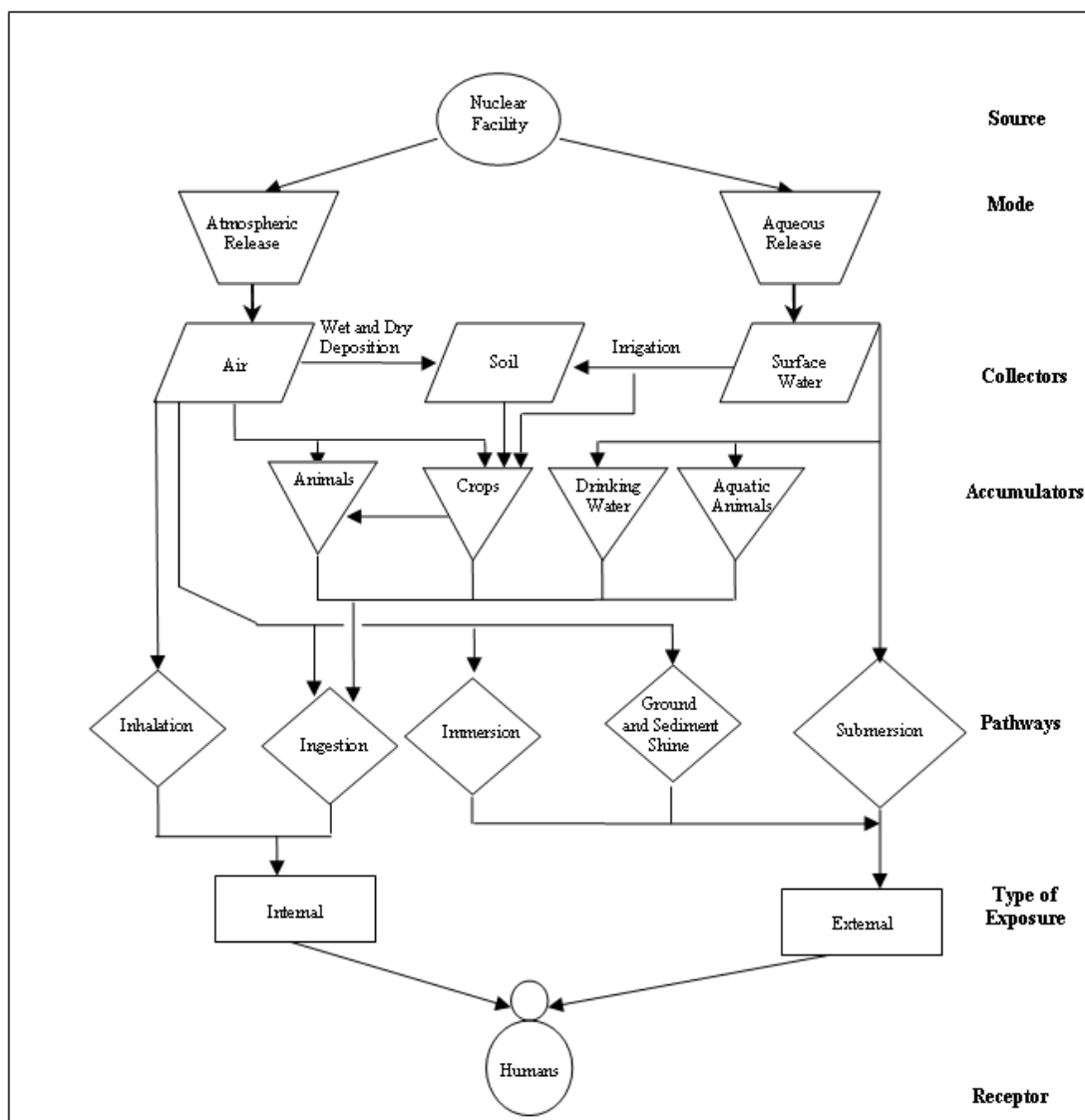


Figure 1. Exposure Pathways to Humans from Atmospheric and Aqueous Releases

At SRS, the potential effects of routine radioactive releases have been assessed annually since operations began. Since 1972, annual offsite dose estimates have been published in site environmental reports, which are made available to the public. For all routine environmental dose calculations performed since 1978, SRS has used environmental transport models based on codes developed by the U.S. Nuclear Regulatory Commission (NRC) (NRC 1977). The NRC based transport models use DOE accepted methods, consider all significant exposure pathways, and permit detailed analysis of the effects of routine operations.

As previously discussed, DOE O 458.1 states that compliance with the annual dose limit of 100 mrem (1 mSv) to a member of the public may be demonstrated by calculating the dose to the maximally exposed individual (MEI) or to a representative person.

4.1 MAXIMALLY EXPOSED INDIVIDUAL

When calculating radiological doses to the public from routine releases, SRS currently uses the concept of the MEI. For the MEI doses, SRS has been using adult male consumption rates for air, food, and drinking water and adult male usage parameters to estimate external exposures to radionuclides. These MEI consumption and usage rates were based on NRC NUREG values (NRC 1977) or on historical SRS-specific values (Hamby 1991). All current applicable land- and water-use parameters used in the dose calculations are documented in Jannik et al. (2010). These parameters include 1) local characteristics of food production, 2) river recreational activities, 3) meat, milk, and vegetable consumption rates, and 4) other human usage parameters required in the SRS dosimetry models. In addition, the preferred elemental bioaccumulation and transfer factors to be used in human health exposure calculations at SRS are documented in this report.

SRS conservatively combines the airborne pathway and liquid pathway MEI dose estimates, even though the two doses are calculated for hypothetical individuals residing at different geographic locations. This is done to demonstrate compliance (which is documented annually in the SRS annual site environmental report (ASER)), with the DOE O 458.1 (DOE 2011) all-pathway TED standard of 100 mrem per year (1 mSv per year).

4.2 REFERENCE PERSON

Beginning with the 2012 ASER, SRS will be using the representative person concept for dose compliance. The dose to a representative person will be based on the reference person (gender and age averaged) dose coefficients provided in DOE Derived Concentration Technical Standard (DOE-STD-1196-2011) and on the SRS-specific reference person usage parameters at the 95th percentile of appropriate national or regional data, which are documented in this report.

The following is a brief history of the representative person concept.

- **Standard Man**
 - Standard Man was first introduced in ICRP Publication 2 (1960)
 - Based on accepted “average” biological and dosimetric parameters
 - Used to calculate “consistent and reproducible” doses to workers
- **Reference Man**
 - Update from Standard Man to Reference Man in ICRP 23 (1974)
 - Improved biokinetic models and better dosimetric models
 - Still primarily focused on an adult worker
 - Information widely used
- **Reference Man (Individual)**
 - Reference Male and Female updated in ICRP 89 (2002)
 - Includes 6 age ranges for specific Reference Values
 - Provides the data for determining Reference Individual (Person)
- **Representative Person**
 - ICRP 101 (2005) was published with the introduction of the Representative Person
 - This term is equivalent of, and replaces, “average member of the critical group”
 - ICRP 103 Recommendations (2007) formally recommends using the Representative Person
 - DOE Order 458.1 (2011) allows use of Representative Person and defines Reference Person

In DOE O 458.1, the reference person is defined as *A hypothetical aggregation of human (male and female) physical and physiological characteristics arrived at by international consensus for the purpose of standardizing radiation dose calculations.* The reference person, therefore, is an age and gender aggregation of the twelve age-specific reference individuals documented in ICRP 89.

Also in DOE O 458.1, the representative person is defined as *An individual receiving a dose that is representative of the more highly exposed individuals in the population. This term is equivalent of, and replaces, “average member of the critical group.”* However, in ICRP 101 (ICRP 2006), the definition is extended to include the *Average value for the more highly exposed group OR the 95th percentile of appropriate national or regional data.* The OR is highlighted for emphasis. At SRS, the reference person who is at the 95th percentile of national usage data will be used as a replacement for the MEI. The appropriate national usage data were taken from the U.S. Environmental Protection Agency’s (EPA) Exposure Factors Handbook: 2011 Edition (EPA 2011).

4.3 TYPICAL PERSON

As an extension of the reference person, and to show compliance with collective dose requirements in DOE O 458.1, SRS has defined the concept of the “Typical Person.” The typical person is a hypothetical reference person that is typical of the entire population group and it is established at the 50th percentile (median) of the national data. These national median data also were taken from EPA (2011). The median (as opposed to the mean) is better suited for skewed distributions, which are typical for human intake rates, to derive at central tendency since it is much more robust and sensible.

5.0 DEVELOPMENT OF REFERENCE PERSON PARAMETERS

The following section describes and documents how the SRS reference person intake and usage parameters were developed.

5.1 BODY MASS

For ingestion rates other than water, reference-individual body masses were required to determine the reference-person ingestion rate of these pathways. These body masses are from ICRP (2002) and are shown in Table 3.

Table 3. ICRP 89 Reference Values for Body Mass

Age	Mass (kg)	
	Male	Female
Newborn	3.5	3.5
1 year	10	10
5 years	19	19
10 years	32	32
15 years	56	53
Adult	73	60

5.2 POPULATION FRACTIONS

The use of population fractions allows the reference person to be a weighted-average based on age and sex, such that it is an aggregation of male and female from six different age groups. The population fractions were determined using the current US census data (Census 2010).

Population data for the US as a whole and for the South Carolina (SC) and Georgia (GA) counties surrounding the Savannah River Site (within an 80 km radius) are shown in Table 4. The SC counties included are Aiken, Allendale, Bamberg, Barnwell, Calhoun, Colleton, Edgefield, Hampton, Lexington, McCormick, Orangeburg, and Saluda. The GA counties included are Bulloch, Burke, Columbia, Emanuel, Jefferson, Jenkins, McDuffie, Richmond, and Screven. These population fractions also are used in the calculation of the reference intake and reference dose coefficients, used in the calculation of the DCSs in section 6.0.

Table 4. U.S. and SC/GA 2010 population fractions

Age Group	Age x, (y)	US 2010		SC/GA Counties 2010	
		Male	Female	Male	Female
new born	$x < 1$	0.006524	0.006251	0.006770	0.006511
1 year	$1 \leq x < 3$	0.013354	0.012800	0.013421	0.013240
5 year	$3 \leq x < 7$	0.026979	0.025833	0.027484	0.026269
10 year	$7 \leq x < 12$	0.033949	0.032489	0.034591	0.033192
15 year	$12 \leq x < 17$	0.034765	0.033087	0.035017	0.033156
Adult	17 and older	0.376036	0.397933	0.369306	0.401043

As the 2010 demographic data show, people living in the surrounding SC/GA counties are slightly younger and more female than the general US population.

5.3 EXPOSURE PATHWAYS

There are many ways an individual member of the public may be exposed to radioactive materials. In the DOE Technical Standard 1196, the pathways analyzed were ingestion of water, inhalation of air, and external exposure from immersion in air. The pathways analyzed in this report were food and water ingestion, inhalation, and external exposure by immersion in air, submersion in water, and ground shine. As previously discussed, for each pathway, 95th and 50th percentile intake rates were taken from EPA (2011) and used for the reference person and typical person scenarios, respectively.

5.3.1 Ingestion

Ingestion is any intake of a radionuclide that enters the body through the gastrointestinal tract. The ingestion pathways included in this report are water, meat, produce (includes vegetables, fruits, and grains), freshwater fish, saltwater invertebrates, and dairy. The reference/typical person ingestion rates are weighted average, changing based on the population fractions and intake rates of each age group and gender.

For most ingestion rates, the 95th and 50th percentile rates were taken directly from EPA (2011). An exception to this was freshwater fish and saltwater invertebrates, where the mean intake is used instead of the 50th percentile because there were no data provided at this level for young people. In the case of water ingestion, the intake rates are the same with the exception of the 15-year old and Adult age groups where the female intake rate is 75% that of the male intake rate as recommended by ICRP (2002). The water ingestion rate reported in EPA (2011) is assumed to be the male ingestion rate. Dose from ingestion is calculated by multiplying the annual ingestion rate by the reference-person ingestion dose coefficients, which are tabulated in Appendix A.

5.3.1.1 Intake Rates

The ingestion intake rates for water, meat, dairy, freshwater fish, saltwater invertebrates, and produce are shown in Tables 5, 6, 7, 8, and 9, respectively. Weighted averages based on the multiple age group intake rates provided in EPA (2011) were used to select the appropriate rates for each of the six age groups recommended in ICRP (2002).

5.3.1.1.1 Water Ingestion

The daily water ingestion rates shown in Table 5 were taken from Table 3-10 of EPA (2011).

Table 5. Water Ingestion Rates

Age Group	Age x, (y)	Water Intake (L/d)			
		50%		95%	
		Male	Female	Male	Female
New Born	x<1	0.364	0.364	1.1195	1.1195
1 year	1≤x<3	0.3295	0.3295	0.98	0.98
5 year	3≤x<7	0.438	0.438	1.2	1.2
10 year	7≤x<12	0.503	0.503	1.409	1.409
15 year	12≤x<17	0.663	0.49725	1.96	1.47
Adult	17 and older	1.04175	0.781313	2.808	2.106
Reference Person (Age and Gender Combined)		0.81		2.2	

The daily 95% reference person and 50% typical person intake rates convert to about 800 L/y and 300 L/y, respectively. The current MEI and average-population intake rates from Jannik et al. (2010) are 730 L/y and 337 L/y, respectively.

5.3.1.1.2 Meat Ingestion

Previously at SRS, the meat consumption pathway was assumed to be entirely beef (Jannik et al. 2010). This assumption was based on the fact that most pigs and chicken in the SRS area were raised in enclosures and not directly exposed to deposited radionuclides on the ground and fodder. However, a developing local (and national) trend is for farmers and suburban residents to raise free-range chickens and pigs. Therefore, the SRS meat consumption pathway will now include all meats. Table 6 shows the meat ingestion rates by age, sex, and intake percentile and were taken from Tables 11-3 of EPA (2011).

Table 6. Total Meat Ingestion (g/day)

Age Group	Age x, (y)	Total Meat Ingestion			
		g/day			
		50%		95%	
		Male	Female	Male	Female
new born	$x < 1$	0	0	18.9	18.9
1 year	$1 \leq x < 3$	34	34	100	100
5 year	$3 \leq x < 7$	62.7	62.7	161.5	161.5
10 year	$7 \leq x < 12$	80	80	204.8	204.8
15 year	$12 \leq x < 17$	95.2	90.1	263.2	249.1
Adult	17 and older	105.85	78	262.8	201
Reference Person (Age and Gender Combined)		86		221	

The daily 95% reference person and 50% typical person intake rates for meat ingestion convert to about 81 kg/y and 32 kg/y, respectively. The current MEI and average-population intake rates are 81 kg/y and 43 kg/y, respectively.

5.3.1.1.3 Dairy Ingestion

Table 7 shows the daily consumption rates of dairy and were taken from Table 11-3 of EPA (2011). The density of milk was required to convert the mass reported in kg in EPA (2011) to cubic centimeters. The density used for this conversion was 1.03 kg/L, which came from the National Institute of Standards and Technology at:
<http://www.nist.gov/pml/wmd/pubs/upload/3-35-13-hb44-final.pdf>.

Table 7. Dairy Ingestion (cm³/day)

Age Group	Age x, (y)	Dairy Ingestion (cm ³ /day)			
		50%		95%	
		Male	Female	Male	Female
new born	$x < 1$	22	22	147	147
1 year	$1 \leq x < 3$	380	380	919	919
5 year	$3 \leq x < 7$	336	336	854	854
10 year	$7 \leq x < 12$	335.5	335.5	988	988
15 year	$12 \leq x < 17$	291	276	1059	1002
Adult	17 and older	167	140	705	609
Reference Person (Age and Gender Combined)		188		715	

The daily 95% reference person and 50% typical person intake rates for dairy consumption convert to about 260 L/y and 69 L/y, respectively. The current MEI and population intake rates are 230 L/y and 120 L/y, respectively.

5.3.1.1.4 Freshwater Fish and Saltwater Invertebrate Ingestion

For freshwater fish consumption, it is assumed that the fish are harvested in the Savannah River below SRS at the Highway 301 Bridge. For saltwater invertebrates, it is assumed that the shellfish are harvested near the mouth of the Savannah River. The fish and invertebrate ingestion rates are included in Table 8 and were taken from Tables 10-7 and 10-9 of EPA (2011).

Table 8. Consumption Rates for Freshwater Fish and Saltwater Invertebrates

Seafood Consumption Rates (g/day)					
Mean					
Age Group	Age x, (y)	Freshwater (Finfish)		Saltwater (Shellfish)	
		g/day		g/day	
		Male	Female	Male	Female
new born	x<1	0.105	0.105	0	0
1 year	1≤x<3	2.2	2.2	0.4	0.4
5 year	3≤x<7	3.4675	3.4675	0.95	0.95
10 year	7≤x<12	5.12	5.12	1.6	1.143
15 year	12≤x<17	5.936	5.936	1.802	1.802
Adult	17 and older	10.5	10.2	3.9	3.3
Reference Person (Age and Gender Combined)		9.0		3.0	
95%					
new born	x<1	0	0	0	0
1 year	1<x<3	12	12	0	0
5 year	3<x<7	5.486	5.486	0.95	0.95
10 year	7<x<12	35.2	35.2	6.4	6.4
15 year	12<x<17	43.68	43.68	2.24	2.24
Adult	17 and older	80.3	76.65	32.85	25.55
Reference Person (Age and Gender Combined)		66		23	

In EPA (2011), Table 10-13 shows that the South Atlantic region (of which South Carolina is a member) is higher than the overall national intake values. To account for these regionally higher fish intakes, freshwater fish and saltwater invertebrate consumption at the SRS is assumed to be 10% higher than the overall national values presented in Table 8.

Accounting for this 10 percent increase, the daily 95% reference person and 50% typical person intake rates for freshwater fish ingestion convert to about 24 kg/y and 3.7 kg/y, respectively. The current MEI intake rates are 19 kg/y and 9 kg/y, respectively. The daily 95% reference person and 50% typical person intake rates for saltwater invertebrates,

converts to about 9.0 kg/y and 1.5 kg/y, respectively. The current MEI intake rates for saltwater shellfish are 8 kg/y and 2 kg/y, respectively.

5.3.1.1.5 Produce Ingestion

Total Produce includes fruits, vegetables, and grains. Body weight was required to determine a daily individual consumption rate presented in Table 9 and the intake rates were taken from Tables 9-3 (for fruits and vegetables) and 12-3 (for grains) of EPA (2011).

Table 9. Total Produce Ingestion Rates (g/day)

Age Group	Age x, (y)	5.3.1.1.5.1 Total Produce Ingestion (g/day)			
		50%		95%	
		male	female	male	female
new born	$x < 1$	27.3	27.3	170.45	170.45
1 year	$1 \leq x < 3$	171	171	493	493
5 year	$3 \leq x < 7$	228.475	228.475	691.125	691.125
10 year	$7 \leq x < 12$	262.4	262.4	873.6	873.6
15 year	$12 \leq x < 17$	342.72	324.36	1040.48	984.74
Adult	17 and older	328.5	261	1029.3	825
Reference Person (Age and Gender Combined)		284		892	

The daily 95% reference person and 50% typical person intake rates for produce consumption convert to about 320 kg/y and 100 kg/y, respectively. The current MEI and average-population intake rates are 319 kg/y and 184 kg/y, respectively. In Table 9-5 (*Per Capita Intake of Individual Fruits and Vegetables*) of EPA (2011), only mean intake rates are provided for leafy vegetable consumption by the various age groups. Based on the mean consumption rates, the ratio of leafy to total vegetable consumption is about 23 percent. Therefore, as part of the daily 95% reference person and 50% typical person total produce consumption rates, it is assumed that leafy vegetables account for 31 kg/y and 11 kg/y, respectively.

5.3.2 Inhalation

The inhalation exposure pathway includes any intake that enters the body through the respiratory system via the bloodstream. There are three absorption types as published in ICRP 66; F, M, S. The F type absorption has a quick biological lifetime, M type absorption has an intermediate biological lifetime, and S type absorption has a very slow biological lifetime. The class of the radionuclide depends on its chemical compound. Generally, class F materials are absorbed in greater fractions in the body than class S.

As with the ingestion pathways, the weighted averages based on the multiple age group inhalation rates provided in Table 6-4 of EPA (2011) were used to select the appropriate rates for each of the six age groups recommended in ICRP 89.

Table 10. Inhalation Rates

Age Group	Age x, (y)	Inhalation m ³ /day			
		95%		50%	
		Male	Female	Male	Female
new born	x<1	5.04	4.75	3.8	3.61
1 year	1.x<3	6.56	6.36	5.12	4.78
5 year	3.x<7	10.185	9.675	8.12	7.64
10 year	7.x<12	13.87	12.61	10.59	9.84
15 year	12.<17	23.26	17.56	17.23	13.28
Adult	17 and older	20.808	16.128	16.158	12.548
Reference Person (Age and Gender Combined)		17.4		13.5	

The daily 95% reference person and 50% typical person intake rates for inhalation of air convert to about 6400 m³/y and 5000 m³/y, respectively. The current MEI and average-population inhalation rates are 8000 m³/y and 5548 m³/y, respectively. To calculate a dose from inhalation, the annual inhalation rate is multiplied by the reference-person dose coefficients, which are tabulated in Appendix B.

5.3.3 Immersion in Air and Submersion in Water

External doses can be received from immersion in air and submersion in water. The exposure time for immersion in air is conservatively set at 365.25 d/y. Exposure time from submersion in water is determined by the activity. For exposure from boating, a reduction factor of 0.5 is used to account for what is effectively a semi-infinite plain and for shielding provided by the boat. EPA (2011) does not provide exposure factor data for swimming or boating on rivers and lakes. Therefore, the exposure times documented in Jannik, et al. (2010) will continue to be used. For boating, the maximum time per year is 44 hours per year and the average time is 22 hours per year. The maximum annual exposure time for swimming is 14 hours and the average time is 7 hours. The external immersion and submersion dose coefficients were taken from the DC_PAK3 toolbox (<http://www.epa.gov/rpdweb00/federal/techdocs.html>) and are compiled in Appendix C.

5.3.4 Ground Shine

Ground shine is the external dose received from radioactive material deposited on the ground. The exposure time is conservatively set at 365.25 d/y. An additional ground shine pathway includes exposure to Savannah River sediment. To calculate dose from shoreline pathways, the ground-shine dose coefficient is multiplied by a dose reduction factor. Due to SRS being located along the Savannah River, the river-shoreline dose reduction factor of 0.2 is used as recommended in EPA (1993). The external ground-shine dose coefficients were taken from the DC_PAK3 toolbox (<http://www.epa.gov/rpdweb00/federal/techdocs.html>) and are compiled in Appendix C.

6.0 DERIVED CONCENTRATION STANDARDS (DCS)

The DCS is the concentration of a particular radionuclide in water, in air, or on the ground that results in a member of the public receiving 100 mrem (1 mSv) effective dose following continuous exposure for one year. In DOE-STD-1196-2011, DCSs were developed for the ingestion of water, inhalation of air and submersion in air pathways, only. These DCSs are required by DOE O 458.1 to be used at all DOE sites in the design and conduct of radiological environmental protection programs. In this report, DCSs for the following additional pathways were considered and documented: ingestion of meat, dairy, grains, produce (fruits and vegetables), seafood, submersion in water and ground shine. These additional DCSs were developed using the same methods as in DOE-STD-1196-2011 and will be used at SRS, where appropriate, as screening and reference values.

6.1 CALCULATION OF INTAKE RATES AND REFERENCE DOSE COEFFICIENTS

Reference intake rates and reference dose coefficients are calculated using the population fractions and intake rates for each associated age group for both male and female. The reference intake rate is calculated by summing the male intake rate multiplied by the male population fraction and the female intake rate multiplied by the female population fraction of each age group shown here in eqn 5,

$$IR_{ref} = \sum_{n=1}^6 (U_{male}(age) * f_{male}(age) + U_{female}(age) * f_{female}(age)) \quad (5)$$

Where “U” is the age specific intake rate and “f” is the population fraction of that particular age group. Reference dose coefficients are calculated using the reference intake rate as seen in eqn 6.

$$DC_{ref} = \frac{\sum_{n=1}^6 [(U_{male}(age) * f_{male}(age) + U_{female}(age) * f_{female}(age)) * DC_{age}]}{IR_{ref}} \quad (6)$$

where DC_{age} is the dose coefficient of a particular age group. The dose coefficient converts the activity present in a medium an individual is exposed to into an effective dose. The units of the dose coefficient are either the Sv/Bq or rem/ μ Ci. The dose coefficients used in this report were tabulated in DOE-STD-1196-2011 and calculated in this manner.

The DCS's for each pathway of ingestion are calculated in a similar manner. Four components are needed to calculate the DCS. The dose constraint is the dose an individual will receive when exposed to the DCS. This dose is the annual dose limit (EC) recommended and used by DOE of 1 mSv or 100 mrem. The reference intake (IR_{ref}) discussed previously is calculated for the ingestion pathway of interest in the units of volume or mass per day. The reference dose coefficient (DC_{ref}) is calculated as shown previously and used to convert the

dose of the constraint into an activity. The DCS is calculated over the course of a year or 365 days (t). The derived concentrations are calculated using eqn 7.

$$DCS_{ing} = \frac{EC}{t * IR_{ref} * DC_{ref}} \quad (7)$$

Depending on the type of food being ingested, the DCS will result in units of activity per unit volume or unit mass.

The inhalation DCS is calculated similarly to that of the ingestion DCS's shown in eqn 8.

$$DCS_{inh} = \frac{EC}{t * IR_{ref} * DC_{ref}} \quad (8)$$

where: EC is the annual dose limit of 1 mSv for the dose constraint. The reference-inhalation intake rate is calculated using eqn 5 and the reference-inhalation dose coefficient is calculated using eqn 6.

The DCS for both air immersion and water submersion are calculated by eqn 9,

$$DCS = \frac{EC}{t * DC} \quad (9)$$

Where the dose constraint (EC) is the annual dose limit of 1 mSv. The dose coefficient is in units of Sv-m³ per Bq-sec, and time over the course of a year (t) is 3.1536×10^7 seconds. The dose coefficients are from the DC_PAK3 toolbox (<http://www.epa.gov/rpdweb00/federal/techdocs.html>).

The calculation of the DCS for ground shine is similar to that of air and water submersion and eqn 9 can be used. The units of the DCS are in activity per unit area (Bq/cm²); the dose coefficient is in units of Sv m² per Bq-sec.

6.1.1 SRS-Specific DCS Results

The SRS-Specific DCSs for all pathways are tabulated in the Appendix D. Comparisons for water ingestion, inhalation, and air submersion are the only comparisons made with DOE-STD-1196-2011. The major changes between current water ingestion and air inhalation DCS are the updated nuclear data in the dose coefficients and reference intake values based on EPA 2011. The major difference in the current and new air immersion DCS is the updated nuclear data in the dose rate coefficients.

7.0 COMPARISON & RESULTS

The following is a summary of the SRS-specific Reference Person (95th percentile) and Typical Person (50th percentile) intake rates. Comparisons to the current MEI and average population values are provided, as is an example of how the overall dose estimates will be affected.

7.1 REFERENCE INTAKE COMPARISONS

The reference intake values calculated in this report changed from the values that were previously used, which are listed in Tables 10 and 11 of Jannik et al. (2010). The 95th percentile values showed no change or slight increases except for inhalation and leafy vegetables, which decreased by 20% and 28%, respectively, from the current adult male (MEI) values. However, for the 50th percentile values there was a noticeable decrease in all of the intake rates because of the effect of age and gender weighting and use of the median as opposed to the mean.

Table 11. Comparison of Reference and Typical Person Intakes with Current Intakes

95%				
		Reference Person	Current MEI	Difference
Air	m3/y	6400	8000	-20.0%
Water	L/y	800	730	9.6%
Meat	kg/y	81	81	0.0%
Leafy Vegetables	kg/y	31	43	-27.9%
Other Produce	kg/y	289	276	0.5%
Milk/Dairy	L/y	260	230	13%
Freshwater Fish	kg/y	24	19	26.3%
Saltwater Invertebrate	kg/y	9.0	8	12.5%
50%				
		Typical Person	Current Avg.	Difference
Air	m3/y	5000	5548	-9.9%
Water	L/y	300	337	-11.0%
Meat	kg/y	32	43	-26.3%
Leafy Vegetables	kg/y	11	21	-47.6%
Other Produce	kg/y	89	163	-45.4%
Milk/Dairy	L/y	69	120	-42.3%
Freshwater Fish	kg/y	3.7	9	-58.9%
Saltwater Invertebrate	kg/y	1.5	2	-25.0%

7.2 COMPARISON OF INTERNAL DOSE CALCULATIONS

Using the reference intakes shown in Table 11 and the internal dose coefficients for tritium oxide from DOE-STD-1196-2011, dose calculations were performed for a unit concentration (1 Bq/L or 1 Bq/kg) and are compared to the current dose values in Table 12. Tritium oxide typically accounts for over 99% of the total releases from SRS.

Table 12. Comparison of Representative and Typical Doses with Current Dose Calculations for Unit Concentrations of Tritium Oxide

95%			
	Representative Dose (Sv)	Current Dose (Sv)	Difference
Air	1.85E-07	2.16E-07	-14.22%
Water	1.68E-08	1.31E-08	27.85%
Meat	1.70E-09	1.46E-09	16.67%
Total Produce	6.72E-09	5.74E-09	17.03%
Milk/Dairy	5.46E-09	4.14E-09	31.88%
Freshwater Fish	5.04E-10	3.42E-10	47.37%
Saltwater Invertebrate	1.89E-10	1.44E-10	31.25%
50%			
	Typical Dose (Sv)	Current Dose (Sv)	Difference
Air	1.45E-07	1.50E-07	-3.37%
Water	6.30E-09	6.07E-09	3.86%
Meat	6.72E-10	7.74E-10	-13.18%
Total Produce	2.10E-09	3.31E-09	-36.59%
Milk/Dairy	1.45E-09	2.16E-09	-32.92%
Freshwater Fish	7.77E-11	1.62E-10	-52.04%
Saltwater Invertebrate	3.15E-11	3.60E-11	-12.50%

In general, the reference-person dose coefficients are larger than the currently used ICRP 72 adult dose coefficients. For tritium oxide, the difference is about 17% more for ingestion and 7% more for inhalation. Therefore, for the 95% intake parameters that increased (Table 11) the dose difference is even larger (Table 12). For the 50% intake parameters (all which decreased), the percentage dose difference is smaller.

7.3 COMPARISON OF EXTERNAL DOSE CALCULATIONS

Using the current exposure times from Jannik et al. (2010) and the external dose coefficients for cesium-137 (including barium-137m) from the DC_PAK3 toolbox, dose calculations were performed for a unit concentration (1 Bq/m^2 or 1 Bq/m^3) and compared to the current dose values in Table 1. The external dose coefficients are tabulated in Appendix C. There are only minor changes due to minor differences in the updated ICRP 107 decay data. Cesium-137 is an important beta-gamma emitter at SRS.

Table 13. External Dose Calculation Comparisons

	Updated Dose	Current Dose	Difference
Air Immersion	8.51E-07	9.08E-07	-6.30%
Water Submersion	1.84E-09	1.97E-09	-6.72%
Ground Shine	1.83E-08	1.85E-08	-1.05%

8.0 DISCUSSION AND CONCLUSIONS

In this report, the SRS-specific reference person intake parameters have been determined and the internal dose coefficients have been established (based on DOE direction) and documented. The external pathway exposure parameters remained unchanged from Jannik et al. (2010). However, the external exposure dose coefficients were updated to those that incorporate the ICRP 107 decay data. In addition, the SRS-specific derived concentration standards for all applicable exposure pathways have been calculated and provided for reference.

8.1 USE OF REFERENCE PERSON PARAMETERS AND DOSE COEFFICIENTS

The SRS-specific reference person intake parameters (provided in Table 11) will be used in conjunction with the reference person ingestion (Appendix A) and inhalation (Appendix B) dose coefficients to calculate the representative person dose at SRS. This representative person dose will be used for demonstrating compliance with the DOE O 458.1 public dose limit of 100 mrem/y (1 mSv/y).

8.2 USE OF SRS-SPECIFIC DERIVED CONCENTRATION STANDARDS

In DOE-STD-1196-2011, DCSs were developed for the ingestion of water, inhalation of air and submersion in air pathways. These DCSs are required by DOE O 458.1 to be used at all DOE sites in the design and conduct of radiological environmental protection programs.

In this report, DCSs for the following additional pathways were considered and documented: ingestion of meat, dairy, grains, produce (fruits and vegetables), seafood, submersion in water and ground shine. These additional DCSs were developed using the same methods as in DOE-STD-1196-2011 and will be used at SRS, where appropriate, only as screening and reference values.

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APPENDIX A

REFERENCE PERSON INGESTION DOSE COEFFICIENTS

Appendix A tabulates the ingestion dose coefficients to be used at SRS. The dose coefficients are from DOE Standard (DOE-STD-1196-2011): Derived Concentration Technical Standard.

Also included is a copy of the formal clarification from DOE-HQ that allows the use of these dose coefficients for all ingestion pathways.



Department of Energy

Washington, DC 20585

January 9, 2013

MEMORANDUM FOR DAVID C. MOODY

MANAGER

SAVANNAH RIVER OPERATIONS OFFICE

FROM

ANDREW C. LAWRENCE

DIRECTOR

OFFICE OF ENVIRONMENTAL PROTECTION, SUSTAINABILITY

SUPPORT AND CORPORATE SAFETY ANALYSIS

OFFICE OF HEALTH, SAFETY AND SECURITY

SUBJECT:

Proper Use of Reference Person Water-Ingestion Derived Dose Coefficients

The Office of Health, Safety and Security (HSS) has reviewed the Savannah River Operations Office (SR) memorandum, dated November 20, 2012. In this memo you requested approval to use the Reference Person water-ingestion weighted dose coefficients contained in the Department of Energy (DOE) standard (STD) DOE-STD-1196-2011, *Derived Concentration Technical Standard (DCS)*, for all ingestion pathway dose calculations.

The dose coefficients for the Reference Person in Appendix A, Tables A-1 and A-2, and the dose rate coefficients in Table A-3 are "DOE-approved dose coefficients" per DOE Order (O) 458.1, *Radiation Protection of the Public and the Environment*, Section 4.e.(7). They may be used by SR and all other DOE offices for calculating doses from effluent emissions to demonstrate compliance with the Order. Alternatives to these coefficients require approval as specified in DOE O 458.1. The dose coefficients presented in the last column for "Reference Person" of Table A-1, are the "DOE approved dose coefficients" for all ingestion pathways. See the attachment for additional details.

We appreciate your efforts in calculating and comparing site-specific dose coefficients with the dose coefficients for water-ingestion from the DCS. Results of this effort illustrate that the differences between the two sets of values are relatively minor and thus provide further justification that the data tables provided in Appendix A of the DCS are sufficient and appropriate for use throughout the DOE complex. There is no need to develop a new set of dose coefficients that are site specific for demonstration of compliance with DOE O 458.1.

For additional information on the DCS please contact Mr. Edward Regnier of the Office of Environmental Policy and Assistance at (202)586-5027 or edward.regnier@hq.doe.gov.

Attachment

cc: David Huizenga, EM-1
Tracy Mustin, EM-1



Printed with soy ink on recycled paper

Attachment
Proper use of Reference Person Water-Ingestion Derived Dose Coefficients

BACKGROUND: The DOE Standard, *Derived Concentration Technical Standard*, DOE-STD-1196-2011, was developed largely to provide:

- (1) The Derived Concentration Standards (Table 5 of the Standard) to support determinations for the need to use of Best Available Technology (BAT) for controlling liquid effluent discharges per DOE Order (O) 458.1, section 4.g.(5); and
- (2) Approved dose coefficients (Appendix A of the standard) for calculating doses to the public in order to demonstrate compliance with DOE O 458.1 dose limits and constraints.

The Derived Concentration Standards are radiological quantities to be used in the design and conduct of radiological environmental protection programs at DOE facilities and sites. If liquid discharges from a DOE facility would contain concentrations of radionuclides that exceed the applicable Derived Concentration Standards in Table 5 then treatment of the effluent by BAT needs to be applied. Compliance with DOE O 458.1 dose limits and constraints is required whether or not BAT treatment is needed.

The tables of DOE-approved dose coefficients for a Reference Person, provided in Appendix A of the Standard, for ingestion of water, inhalation, and submersion, are to be used for estimating doses to the public for demonstrating compliance with the Order.

DISCUSSION: The Derived Concentration Standards and the dose coefficients in DOE-STD-1196 reflect the current state of knowledge and practice in radiation protection. The effective dose coefficients for Reference Person, which are both age- and gender-weighted, were developed utilizing dose methodologies from the International Commission on Radiological Protection (ICRP) 60, *Recommendations of the International Commission on Radiological Protection*, published in 1991. The effective dose coefficients' development used new sophisticated biokinetic and dosimetric models, data from ICRP 72 (ICRP 1996), *Age Dependent Doses to Members of the Public and from Intake of Radionuclides*; ICRP 89 (ICRP 2002), *Basic Anatomical and Physiological Data for Use in Radiological Protection*; ICRP 107 (ICRP 2008), *Nuclear Decay Data for Dosimetric Calculations*; and the Environmental Protection Agency's Federal Guidance Report 13, *Cancer Risk Coefficients for Environmental Exposure to Radionuclides*.

Dose coefficients for ingestion of water can be used for all forms of ingestion for a Reference Person. As with previous dose coefficients derived under ICRP 26/30 dose methodologies, they are sufficient and appropriate for use throughout the DOE complex.

DOE dose limits and constraints contained in DOE O 458.1 are intended to protect the general public from long-term exposure. The Order achieves this through use of a Reference Person that takes into account the ages and the gender of the population being protected. It is not necessary or appropriate under typical situations to estimate separate doses to various age groups or genders in order to achieve long term protection. Derivation of doses using the Standard's dose

coefficients for Reference Person is sufficient and appropriate to assure adequate protection from radiation exposure to the public for chronic exposures (a lifetime). The dose limits in DOE O 458.1 and implementation of the ALARA process provide an ample margin of safety to ensure the public is protected from DOE operations. While there is a requirement to regulate on the basis of yearly dose for compliance purposes, the main purpose is to minimize the lifetime radiological risk to the public. Calculating the dose to every age group individually is not warranted by the data quality objectives (DQOs) needed to determine protection of the population over their lifetime nor by the precision (or lack thereof) of the data and assumptions which are used in such calculations.

Columns other than the Reference Person column within the appendices for all pathways (ingestion, inhalation, and submersion) are primarily for informational purposes, and DOE does not recommend their use under normal circumstances. The dose limits and constraints in the Order are applicable to a Reference Person, not specific individuals. DOE neither requires nor advocates the calculation of separate doses to each of the six age groups listed in Tables A-1, A-2, and A-3 of the Standard. The ICRP 103, *The 2007 Recommendations of the International Commission on Radiological Protection*, recognizes this and states:

“The Commission’s risk estimates are called ‘nominal’ because they relate to the exposure of a nominal population of females and males with a typical age distribution and are computed by averaging over age groups and both sexes. The dosimetric quantity recommended for radiological protection, effective dose, is also computed by age- and sex-averaging.”

As new information with a sound technical basis is developed by national and international advisory groups on radiological protection of the public and the environment, we will continue to update our standards to reflect the best available science.

Further, the dose coefficients used within the Standard are for a Reference Person that is a member of the general public. Requirements for assessment of occupational exposures of DOE workers are specified in 10 Code of Federal Regulations 835, *Occupational Radiation Protection*. Guidance on meeting these requirements is found in DOE Guide 441.1-1C, *Radiation Protection Programs Guide for Use with Title 10, Code of Federal Regulations, Part 835, Occupational Radiation Protection*. Likewise dose coefficients in the Standard may not be appropriate for dose reconstruction analysis or individual dose assessments.

Table A-1 Ingestion Dose Coefficients

Nuclide	Ingestion Dose Coefficient (Sv/Bq)	Ingestion Dose Coefficient (mrem/Ci)	Ingestion Dose Coefficient (mrem/pCi)
H-3	2.10E-11	7.77E+04	7.77E-08
Be-7	3.48E-11	1.29E+05	1.29E-07
Be-10	1.56E-09	5.77E+06	5.77E-06
C-11	3.10E-11	1.15E+05	1.15E-07
C-14	6.33E-10	2.34E+06	2.34E-06
F-18	6.24E-11	2.31E+05	2.31E-07
Na-22	3.88E-09	1.44E+07	1.44E-05
Na-24	5.46E-10	2.02E+06	2.02E-06
Mg-28	2.82E-09	1.04E+07	1.04E-05
Al-26	4.59E-09	1.70E+07	1.70E-05
Si-31	2.13E-10	7.88E+05	7.88E-07
Si-32	7.99E-10	2.96E+06	2.96E-06
P-32	3.39E-09	1.25E+07	1.25E-05
P-33	3.37E-10	1.25E+06	1.25E-06
S-35	1.74E-10	6.44E+05	6.44E-07
S-38	4.34E-10	1.61E+06	1.61E-06
Cl-34m	1.37E-10	5.07E+05	5.07E-07
Cl-36	1.24E-09	4.59E+06	4.59E-06
Cl-38	1.56E-10	5.77E+05	5.77E-07
Cl-39	1.13E-10	4.18E+05	4.18E-07
K-40	8.22E-09	3.04E+07	3.04E-05
K-42	5.89E-10	2.18E+06	2.18E-06
K-43	3.20E-10	1.18E+06	1.18E-06
K-44	1.11E-10	4.11E+05	4.11E-07
K-45	6.48E-11	2.40E+05	2.40E-07
Ca-41	2.96E-10	1.10E+06	1.10E-06
Ca-45	1.04E-09	3.85E+06	3.85E-06
Ca-47	2.05E-09	7.59E+06	7.59E-06
Sc-43	2.91E-10	1.08E+06	1.08E-06
Sc-44	4.72E-10	1.75E+06	1.75E-06
Sc-44m	3.26E-09	1.21E+07	1.21E-05
Sc-46	1.88E-09	6.96E+06	6.96E-06
Sc-47	7.46E-10	2.76E+06	2.76E-06
Sc-48	2.14E-09	7.92E+06	7.92E-06
Sc-49	1.10E-10	4.07E+05	4.07E-07
Ti-44	7.41E-09	2.74E+07	2.74E-05
Ti-45	2.01E-10	7.44E+05	7.44E-07
V-47	8.37E-11	3.10E+05	3.10E-07

Nuclide	Ingestion Dose Coefficient (Sv/Bq)	Ingestion Dose Coefficient (mrem/Ci)	Ingestion Dose Coefficient (mrem/pCi)
V-48	2.54E-09	9.40E+06	9.40E-06
V-49	2.53E-11	9.36E+04	9.36E-08
V-50	3.75E-09	1.39E+07	1.39E-05
Cr-48	2.47E-10	9.14E+05	9.14E-07
Cr-49	8.13E-11	3.01E+05	3.01E-07
Cr-51	5.03E-11	1.86E+05	1.86E-07
Mn-51	1.23E-10	4.55E+05	4.55E-07
Mn-52	2.26E-09	8.36E+06	8.36E-06
Mn-52m	9.17E-11	3.39E+05	3.39E-07
Mn-53	4.14E-11	1.53E+05	1.53E-07
Mn-54	8.90E-10	3.29E+06	3.29E-06
Mn-56	3.41E-10	1.26E+06	1.26E-06
Fe-52	1.83E-09	6.77E+06	6.77E-06
Fe-55	5.51E-10	2.04E+06	2.04E-06
Fe-59	2.74E-09	1.01E+07	1.01E-05
Fe-60	1.48E-07	5.48E+08	5.48E-04
Co-55	1.27E-09	4.70E+06	4.70E-06
Co-56	3.44E-09	1.27E+07	1.27E-05
Co-57	3.13E-10	1.16E+06	1.16E-06
Co-58	1.01E-09	3.74E+06	3.74E-06
Co-58m	3.10E-11	1.15E+05	1.15E-07
Co-60	5.49E-09	2.03E+07	2.03E-05
Co-60m	2.27E-12	8.40E+03	8.40E-09
Co-61	1.00E-10	3.70E+05	3.70E-07
Co-62m	6.48E-11	2.40E+05	2.40E-07
Ni-56	1.08E-09	4.00E+06	4.00E-06
Ni-57	1.17E-09	4.33E+06	4.33E-06
Ni-59	7.96E-11	2.95E+05	2.95E-07
Ni-63	1.98E-10	7.33E+05	7.33E-07
Ni-65	2.46E-10	9.10E+05	9.10E-07
Ni-66	4.15E-09	1.54E+07	1.54E-05
Cu-60	9.33E-11	3.45E+05	3.45E-07
Cu-61	1.49E-10	5.51E+05	5.51E-07
Cu-64	1.59E-10	5.88E+05	5.88E-07
Cu-67	4.35E-10	1.61E+06	1.61E-06
Zn-62	1.22E-09	4.51E+06	4.51E-06
Zn-63	1.06E-10	3.92E+05	3.92E-07
Zn-65	4.77E-09	1.76E+07	1.76E-05
Zn-69	4.14E-11	1.53E+05	1.53E-07
Zn-69m	4.33E-10	1.60E+06	1.60E-06

Nuclide	Ingestion Dose Coefficient (Sv/Bq)	Ingestion Dose Coefficient (mrem/Ci)	Ingestion Dose Coefficient (mrem/pCi)
Zn-71m	3.10E-10	1.15E+06	1.15E-06
Zn-72	1.82E-09	6.73E+06	6.73E-06
Ga-65	4.86E-11	1.80E+05	1.80E-07
Ga-66	1.59E-09	5.88E+06	5.88E-06
Ga-67	2.60E-10	9.62E+05	9.62E-07
Ga-68	1.36E-10	5.03E+05	5.03E-07
Ga-70	4.22E-11	1.56E+05	1.56E-07
Ga-72	1.47E-09	5.44E+06	5.44E-06
Ga-73	3.59E-10	1.33E+06	1.33E-06
Ge-66	1.28E-10	4.74E+05	4.74E-07
Ge-67	7.91E-11	2.93E+05	2.93E-07
Ge-68	1.69E-09	6.25E+06	6.25E-06
Ge-69	2.61E-10	9.66E+05	9.66E-07
Ge-71	1.58E-11	5.85E+04	5.85E-08
Ge-75	6.19E-11	2.29E+05	2.29E-07
Ge-77	4.21E-10	1.56E+06	1.56E-06
Ge-78	1.47E-10	5.44E+05	5.44E-07
As-69	7.26E-11	2.69E+05	2.69E-07
As-70	1.76E-10	6.51E+05	6.51E-07
As-71	5.86E-10	2.17E+06	2.17E-06
As-72	2.42E-09	8.95E+06	8.95E-06
As-73	3.51E-10	1.30E+06	1.30E-06
As-74	1.68E-09	6.22E+06	6.22E-06
As-76	2.11E-09	7.81E+06	7.81E-06
As-77	5.27E-10	1.95E+06	1.95E-06
As-78	2.61E-10	9.66E+05	9.66E-07
Se-70	1.25E-10	4.63E+05	4.63E-07
Se-72	8.23E-09	3.05E+07	3.05E-05
Se-73	2.78E-10	1.03E+06	1.03E-06
Se-73m	3.67E-11	1.36E+05	1.36E-07
Se-75	3.35E-09	1.24E+07	1.24E-05
Se-79	4.68E-09	1.73E+07	1.73E-05
Se-81	3.61E-11	1.34E+05	1.34E-07
Se-81m	7.16E-11	2.65E+05	2.65E-07
Se-83	5.87E-11	2.17E+05	2.17E-07
Br-74	1.07E-10	3.96E+05	3.96E-07
Br-74m	1.76E-10	6.51E+05	6.51E-07
Br-75	1.03E-10	3.81E+05	3.81E-07
Br-76	5.92E-10	2.19E+06	2.19E-06
Br-77	1.20E-10	4.44E+05	4.44E-07

Nuclide	Ingestion Dose Coefficient (Sv/Bq)	Ingestion Dose Coefficient (mrem/Ci)	Ingestion Dose Coefficient (mrem/pCi)
Br-80	4.18E-11	1.55E+05	1.55E-07
Br-80m	1.55E-10	5.74E+05	5.74E-07
Br-82	6.75E-10	2.50E+06	2.50E-06
Br-83	5.98E-11	2.21E+05	2.21E-07
Br-84	1.18E-10	4.37E+05	4.37E-07
Rb-78	9.29E-11	3.44E+05	3.44E-07
Rb-79	6.58E-11	2.43E+05	2.43E-07
Rb-81	6.31E-11	2.33E+05	2.33E-07
Rb-81m	1.25E-11	4.63E+04	4.63E-08
Rb-82m	1.63E-10	6.03E+05	6.03E-07
Rb-83	2.14E-09	7.92E+06	7.92E-06
Rb-84	3.52E-09	1.30E+07	1.30E-05
Rb-84m	9.16E-12	3.39E+04	3.39E-08
Rb-86	3.81E-09	1.41E+07	1.41E-05
Rb-87	2.05E-09	7.59E+06	7.59E-06
Rb-88	1.22E-10	4.51E+05	4.51E-07
Rb-89	5.95E-11	2.20E+05	2.20E-07
Sr-80	5.01E-10	1.85E+06	1.85E-06
Sr-81	8.84E-11	3.27E+05	3.27E-07
Sr-82	8.43E-09	3.12E+07	3.12E-05
Sr-83	6.46E-10	2.39E+06	2.39E-06
Sr-85	7.94E-10	2.94E+06	2.94E-06
Sr-85m	7.53E-12	2.79E+04	2.79E-08
Sr-87m	3.86E-11	1.43E+05	1.43E-07
Sr-89	3.61E-09	1.34E+07	1.34E-05
Sr-90	3.60E-08	1.33E+08	1.33E-04
Sr-91	8.47E-10	3.13E+06	3.13E-06
Sr-92	5.44E-10	2.01E+06	2.01E-06
Y-84m	1.79E-10	6.62E+05	6.62E-07
Y-85	2.43E-10	8.99E+05	8.99E-07
Y-85m	4.94E-10	1.83E+06	1.83E-06
Y-86	1.22E-09	4.51E+06	4.51E-06
Y-86m	7.17E-11	2.65E+05	2.65E-07
Y-87	7.12E-10	2.63E+06	2.63E-06
Y-87m	2.89E-10	1.07E+06	1.07E-06
Y-88	1.61E-09	5.96E+06	5.96E-06
Y-90	3.70E-09	1.37E+07	1.37E-05
Y-90m	2.35E-10	8.70E+05	8.70E-07
Y-91	3.27E-09	1.21E+07	1.21E-05
Y-91m	1.46E-11	5.40E+04	5.40E-08

Nuclide	Ingestion Dose Coefficient (Sv/Bq)	Ingestion Dose Coefficient (mrem/Ci)	Ingestion Dose Coefficient (mrem/pCi)
Y-92	6.79E-10	2.51E+06	2.51E-06
Y-93	1.60E-09	5.92E+06	5.92E-06
Y-94	1.13E-10	4.18E+05	4.18E-07
Y-95	5.71E-11	2.11E+05	2.11E-07
Zr-86	1.10E-09	4.07E+06	4.07E-06
Zr-87	2.51E-10	9.29E+05	9.29E-07
Zr-88	5.37E-10	1.99E+06	1.99E-06
Zr-89	1.02E-09	3.77E+06	3.77E-06
Zr-93	1.00E-09	3.70E+06	3.70E-06
Zr-95	1.26E-09	4.66E+06	4.66E-06
Zr-97	2.80E-09	1.04E+07	1.04E-05
Nb-88	9.43E-11	3.49E+05	3.49E-07
Nb-89	3.69E-10	1.37E+06	1.37E-06
Nb-89m	1.80E-10	6.66E+05	6.66E-07
Nb-90	1.62E-09	5.99E+06	5.99E-06
Nb-91	6.22E-11	2.30E+05	2.30E-07
Nb-91m	5.65E-10	2.09E+06	2.09E-06
Nb-92	1.27E-09	4.70E+06	4.70E-06
Nb-92m	6.26E-10	2.32E+06	2.32E-06
Nb-93m	1.78E-10	6.59E+05	6.59E-07
Nb-94	2.23E-09	8.25E+06	8.25E-06
Nb-95	7.50E-10	2.78E+06	2.78E-06
Nb-95m	8.34E-10	3.09E+06	3.09E-06
Nb-96	1.42E-09	5.25E+06	5.25E-06
Nb-97	9.18E-11	3.40E+05	3.40E-07
Nb-98m	1.42E-10	5.25E+05	5.25E-07
Mo-90	2.77E-10	1.02E+06	1.02E-06
Mo-91	8.03E-11	2.97E+05	2.97E-07
Mo-93	3.12E-09	1.15E+07	1.15E-05
Mo-93m	1.47E-10	5.44E+05	5.44E-07
Mo-99	7.73E-10	2.86E+06	2.86E-06
Mo-101	5.33E-11	1.97E+05	1.97E-07
Mo-102	9.32E-11	3.45E+05	3.45E-07
Tc-93	8.84E-11	3.27E+05	3.27E-07
Tc-93m	4.11E-11	1.52E+05	1.52E-07
Tc-94	2.53E-10	9.36E+05	9.36E-07
Tc-94m	1.36E-10	5.03E+05	5.03E-07
Tc-95	2.26E-10	8.36E+05	8.36E-07
Tc-95m	7.19E-10	2.66E+06	2.66E-06
Tc-96	1.38E-09	5.11E+06	5.11E-06

Nuclide	Ingestion Dose Coefficient (Sv/Bq)	Ingestion Dose Coefficient (mrem/Ci)	Ingestion Dose Coefficient (mrem/pCi)
Tc-96m	1.58E-11	5.85E+04	5.85E-08
Tc-97	9.47E-11	3.50E+05	3.50E-07
Tc-97m	7.70E-10	2.85E+06	2.85E-06
Tc-98	2.43E-09	8.99E+06	8.99E-06
Tc-99	9.00E-10	3.33E+06	3.33E-06
Tc-99m	2.91E-11	1.08E+05	1.08E-07
Tc-101	2.50E-11	9.25E+04	9.25E-08
Tc-104	1.09E-10	4.03E+05	4.03E-07
Ru-94	1.25E-10	4.63E+05	4.63E-07
Ru-95	7.75E-11	2.87E+05	2.87E-07
Ru-97	1.94E-10	7.18E+05	7.18E-07
Ru-103	9.41E-10	3.48E+06	3.48E-06
Ru-105	3.76E-10	1.39E+06	1.39E-06
Ru-106	9.59E-09	3.55E+07	3.55E-05
Rh-97	6.19E-11	2.29E+05	2.29E-07
Rh-97m	5.99E-11	2.22E+05	2.22E-07
Rh-99	7.39E-10	2.73E+06	2.73E-06
Rh-99m	8.46E-11	3.13E+05	3.13E-07
Rh-100	8.48E-10	3.14E+06	3.14E-06
Rh-101	6.90E-10	2.55E+06	2.55E-06
Rh-101m	2.72E-10	1.01E+06	1.01E-06
Rh-102	1.59E-09	5.88E+06	5.88E-06
Rh-102m	3.32E-09	1.23E+07	1.23E-05
Rh-103m	5.11E-12	1.89E+04	1.89E-08
Rh-105	5.02E-10	1.86E+06	1.86E-06
Rh-106m	2.18E-10	8.07E+05	8.07E-07
Rh-107	3.20E-11	1.18E+05	1.18E-07
Pd-98	8.25E-11	3.05E+05	3.05E-07
Pd-99	4.59E-11	1.70E+05	1.70E-07
Pd-100	1.18E-09	4.37E+06	4.37E-06
Pd-101	1.22E-10	4.51E+05	4.51E-07
Pd-103	2.63E-10	9.73E+05	9.73E-07
Pd-107	5.29E-11	1.96E+05	1.96E-07
Pd-109	7.69E-10	2.85E+06	2.85E-06
Pd-111	6.75E-11	2.50E+05	2.50E-07
Pd-112	3.54E-09	1.31E+07	1.31E-05
Ag-101	4.27E-11	1.58E+05	1.58E-07
Ag-102	5.36E-11	1.98E+05	1.98E-07
Ag-103	4.96E-11	1.84E+05	1.84E-07
Ag-104	7.63E-11	2.82E+05	2.82E-07

Nuclide	Ingestion Dose Coefficient (Sv/Bq)	Ingestion Dose Coefficient (mrem/Ci)	Ingestion Dose Coefficient (mrem/pCi)
Ag-104m	8.74E-11	3.23E+05	3.23E-07
Ag-105	5.91E-10	2.19E+06	2.19E-06
Ag-106	4.21E-11	1.56E+05	1.56E-07
Ag-106m	1.83E-09	6.77E+06	6.77E-06
Ag-108m	2.95E-09	1.09E+07	1.09E-05
Ag-110m	3.55E-09	1.31E+07	1.31E-05
Ag-111	1.73E-09	6.40E+06	6.40E-06
Ag-112	5.73E-10	2.12E+06	2.12E-06
Ag-113	5.40E-10	2.00E+06	2.00E-06
Ag-115	8.30E-11	3.07E+05	3.07E-07
Cd-104	1.34E-10	4.96E+05	4.96E-07
Cd-105	5.47E-11	2.02E+05	2.02E-07
Cd-107	8.59E-11	3.18E+05	3.18E-07
Cd-109	2.52E-09	9.32E+06	9.32E-06
Cd-111m	1.81E-11	6.70E+04	6.70E-08
Cd-113	2.63E-08	9.73E+07	9.73E-05
Cd-113m	2.57E-08	9.51E+07	9.51E-05
Cd-115	1.90E-09	7.03E+06	7.03E-06
Cd-115m	4.35E-09	1.61E+07	1.61E-05
Cd-117	3.73E-10	1.38E+06	1.38E-06
Cd-117m	3.71E-10	1.37E+06	1.37E-06
Cd-118	2.50E-10	9.25E+05	9.25E-07
In-107	5.29E-11	1.96E+05	1.96E-07
In-108	9.72E-11	3.60E+05	3.60E-07
In-108m	1.06E-10	3.92E+05	3.92E-07
In-109	7.46E-11	2.76E+05	2.76E-07
In-110	3.03E-10	1.12E+06	1.12E-06
In-110m	1.34E-10	4.96E+05	4.96E-07
In-111	3.79E-10	1.40E+06	1.40E-06
In-112	1.40E-11	5.18E+04	5.18E-08
In-112m	2.28E-11	8.44E+04	8.44E-08
In-113m	3.92E-11	1.45E+05	1.45E-07
In-114m	5.81E-09	2.15E+07	2.15E-05
In-115	3.55E-08	1.31E+08	1.31E-04
In-115m	1.19E-10	4.40E+05	4.40E-07
In-116m	8.24E-11	3.05E+05	3.05E-07
In-117	4.01E-11	1.48E+05	1.48E-07
In-117m	1.68E-10	6.22E+05	6.22E-07
In-119m	6.20E-11	2.29E+05	2.29E-07
Sn-108	2.85E-11	1.05E+05	1.05E-07

Nuclide	Ingestion Dose Coefficient (Sv/Bq)	Ingestion Dose Coefficient (mrem/Ci)	Ingestion Dose Coefficient (mrem/pCi)
Sn-109	2.38E-11	8.81E+04	8.81E-08
Sn-110	4.91E-10	1.82E+06	1.82E-06
Sn-111	2.78E-11	1.03E+05	1.03E-07
Sn-113	1.01E-09	3.74E+06	3.74E-06
Sn-113m	4.39E-12	1.62E+04	1.62E-08
Sn-117m	9.70E-10	3.59E+06	3.59E-06
Sn-119m	4.87E-10	1.80E+06	1.80E-06
Sn-121	3.17E-10	1.17E+06	1.17E-06
Sn-121m	5.30E-10	1.96E+06	1.96E-06
Sn-123	2.92E-09	1.08E+07	1.08E-05
Sn-123m	5.18E-11	1.92E+05	1.92E-07
Sn-125	4.19E-09	1.55E+07	1.55E-05
Sn-126	6.39E-09	2.36E+07	2.36E-05
Sn-127	2.64E-10	9.77E+05	9.77E-07
Sn-128	2.04E-10	7.55E+05	7.55E-07
Sb-115	3.15E-11	1.17E+05	1.17E-07
Sb-116	3.96E-11	1.47E+05	1.47E-07
Sb-116m	8.13E-11	3.01E+05	3.01E-07
Sb-117	2.37E-11	8.77E+04	8.77E-08
Sb-118m	2.65E-10	9.81E+05	9.81E-07
Sb-119	1.12E-10	4.14E+05	4.14E-07
Sb-120	1.92E-11	7.10E+04	7.10E-08
Sb-120m	1.56E-09	5.77E+06	5.77E-06
Sb-122	2.31E-09	8.55E+06	8.55E-06
Sb-124	3.37E-09	1.25E+07	1.25E-05
Sb-124n	1.27E-11	4.70E+04	4.70E-08
Sb-125	1.47E-09	5.44E+06	5.44E-06
Sb-126	3.48E-09	1.29E+07	1.29E-05
Sb-126m	5.00E-11	1.85E+05	1.85E-07
Sb-127	2.26E-09	8.36E+06	8.36E-06
Sb-128	1.06E-09	3.92E+06	3.92E-06
Sb-128m	4.44E-11	1.64E+05	1.64E-07
Sb-129	5.72E-10	2.12E+06	2.12E-06
Sb-130	1.22E-10	4.51E+05	4.51E-07
Sb-131	1.47E-10	5.44E+05	5.44E-07
Te-114	8.71E-11	3.22E+05	3.22E-07
Te-116	2.58E-10	9.55E+05	9.55E-07
Te-117	6.77E-11	2.50E+05	2.50E-07
Te-118	4.13E-09	1.53E+07	1.53E-05
Te-119	2.24E-10	8.29E+05	8.29E-07

Nuclide	Ingestion Dose Coefficient (Sv/Bq)	Ingestion Dose Coefficient (mrem/Ci)	Ingestion Dose Coefficient (mrem/pCi)
Te-119m	8.96E-10	3.32E+06	3.32E-06
Te-121	5.65E-10	2.09E+06	2.09E-06
Te-121m	3.03E-09	1.12E+07	1.12E-05
Te-123	1.49E-09	5.51E+06	5.51E-06
Te-123m	1.87E-09	6.92E+06	6.92E-06
Te-125m	1.22E-09	4.51E+06	4.51E-06
Te-127	2.30E-10	8.51E+05	8.51E-07
Te-127m	3.40E-09	1.26E+07	1.26E-05
Te-129	8.51E-11	3.15E+05	3.15E-07
Te-129m	4.25E-09	1.57E+07	1.57E-05
Te-131	1.21E-10	4.48E+05	4.48E-07
Te-131m	2.69E-09	9.95E+06	9.95E-06
Te-132	5.36E-09	1.98E+07	1.98E-05
Te-133	1.01E-10	3.74E+05	3.74E-07
Te-133m	3.64E-10	1.35E+06	1.35E-06
Te-134	1.33E-10	4.92E+05	4.92E-07
I-118	2.76E-10	1.02E+06	1.02E-06
I-119	5.75E-11	2.13E+05	2.13E-07
I-120	4.10E-10	1.52E+06	1.52E-06
I-120m	2.10E-10	7.77E+05	7.77E-07
I-121	1.00E-10	3.70E+05	3.70E-07
I-123	3.24E-10	1.20E+06	1.20E-06
I-124	1.90E-08	7.03E+07	7.03E-05
I-125	1.89E-08	6.99E+07	6.99E-05
I-126	4.09E-08	1.51E+08	1.51E-04
I-128	6.23E-11	2.31E+05	2.31E-07
I-129	1.21E-07	4.48E+08	4.48E-04
I-130	2.76E-09	1.02E+07	1.02E-05
I-131	3.13E-08	1.16E+08	1.16E-04
I-132	4.05E-10	1.50E+06	1.50E-06
I-132m	2.89E-10	1.07E+06	1.07E-06
I-133	6.60E-09	2.44E+07	2.44E-05
I-134	1.37E-10	5.07E+05	5.07E-07
I-135	1.31E-09	4.85E+06	4.85E-06
Cs-125	4.56E-11	1.69E+05	1.69E-07
Cs-127	3.09E-11	1.14E+05	1.14E-07
Cs-129	7.50E-11	2.78E+05	2.78E-07
Cs-130	3.56E-11	1.32E+05	1.32E-07
Cs-131	7.22E-11	2.67E+05	2.67E-07
Cs-132	6.00E-10	2.22E+06	2.22E-06

Nuclide	Ingestion Dose Coefficient (Sv/Bq)	Ingestion Dose Coefficient (mrem/Ci)	Ingestion Dose Coefficient (mrem/pCi)
Cs-134	1.87E-08	6.92E+07	6.92E-05
Cs-134m	2.61E-11	9.66E+04	9.66E-08
Cs-135	2.64E-09	9.77E+06	9.77E-06
Cs-135m	2.37E-11	8.77E+04	8.77E-08
Cs-136	3.45E-09	1.28E+07	1.28E-05
Cs-137	1.33E-08	4.92E+07	4.92E-05
Cs-138	1.28E-10	4.74E+05	4.74E-07
Ba-124	9.23E-11	3.42E+05	3.42E-07
Ba-126	3.36E-10	1.24E+06	1.24E-06
Ba-127	3.28E-11	1.21E+05	1.21E-07
Ba-128	3.56E-09	1.32E+07	1.32E-05
Ba-129	6.26E-11	2.32E+05	2.32E-07
Ba-129m	8.81E-11	3.26E+05	3.26E-07
Ba-131	6.08E-10	2.25E+06	2.25E-06
Ba-131m	6.65E-12	2.46E+04	2.46E-08
Ba-133	2.44E-09	9.03E+06	9.03E-06
Ba-133m	7.19E-10	2.66E+06	2.66E-06
Ba-135m	5.66E-10	2.09E+06	2.09E-06
Ba-139	1.64E-10	6.07E+05	6.07E-07
Ba-140	3.63E-09	1.34E+07	1.34E-05
Ba-141	9.85E-11	3.64E+05	3.64E-07
Ba-142	4.46E-11	1.65E+05	1.65E-07
La-129	3.53E-11	1.31E+05	1.31E-07
La-131	4.39E-11	1.62E+05	1.62E-07
La-132	5.41E-10	2.00E+06	2.00E-06
La-132m	4.83E-11	1.79E+05	1.79E-07
La-133	4.21E-11	1.56E+05	1.56E-07
La-135	4.12E-11	1.52E+05	1.52E-07
La-137	1.11E-10	4.11E+05	4.11E-07
La-138	1.37E-09	5.07E+06	5.07E-06
La-140	2.67E-09	9.88E+06	9.88E-06
La-141	5.10E-10	1.89E+06	1.89E-06
La-142	2.31E-10	8.55E+05	8.55E-07
La-143	7.51E-11	2.78E+05	2.78E-07
Ce-130	9.37E-11	3.47E+05	3.47E-07
Ce-131	3.62E-11	1.34E+05	1.34E-07
Ce-132	4.42E-10	1.64E+06	1.64E-06
Ce-133	1.21E-10	4.48E+05	4.48E-07
Ce-133m	2.69E-10	9.95E+05	9.95E-07
Ce-134	3.63E-09	1.34E+07	1.34E-05

Nuclide	Ingestion Dose Coefficient (Sv/Bq)	Ingestion Dose Coefficient (mrem/Ci)	Ingestion Dose Coefficient (mrem/pCi)
Ce-135	3.35E-10	1.24E+06	1.24E-06
Ce-137	3.57E-11	1.32E+05	1.32E-07
Ce-137m	7.59E-10	2.81E+06	2.81E-06
Ce-139	3.50E-10	1.30E+06	1.30E-06
Ce-141	9.78E-10	3.62E+06	3.62E-06
Ce-143	1.54E-09	5.70E+06	5.70E-06
Ce-144	7.25E-09	2.68E+07	2.68E-05
Pr-134	6.46E-11	2.39E+05	2.39E-07
Pr-134m	1.12E-10	4.14E+05	4.14E-07
Pr-135	5.73E-11	2.12E+05	2.12E-07
Pr-136	4.47E-11	1.65E+05	1.65E-07
Pr-137	4.87E-11	1.80E+05	1.80E-07
Pr-138m	1.67E-10	6.18E+05	6.18E-07
Pr-139	4.34E-11	1.61E+05	1.61E-07
Pr-142	1.82E-09	6.73E+06	6.73E-06
Pr-142m	2.32E-11	8.58E+04	8.58E-08
Pr-143	1.62E-09	5.99E+06	5.99E-06
Pr-144	6.82E-11	2.52E+05	2.52E-07
Pr-145	5.44E-10	2.01E+06	2.01E-06
Pr-146	1.04E-10	3.85E+05	3.85E-07
Pr-147	4.52E-11	1.67E+05	1.67E-07
Nd-135	7.77E-11	2.87E+05	2.87E-07
Nd-136	1.30E-10	4.81E+05	4.81E-07
Nd-137	7.03E-11	2.60E+05	2.60E-07
Nd-138	8.71E-10	3.22E+06	3.22E-06
Nd-139	2.73E-11	1.01E+05	1.01E-07
Nd-139m	3.10E-10	1.15E+06	1.15E-06
Nd-140	2.71E-09	1.00E+07	1.00E-05
Nd-141	1.13E-11	4.18E+04	4.18E-08
Nd-144	5.28E-08	1.95E+08	1.95E-04
Nd-147	1.48E-09	5.48E+06	5.48E-06
Nd-149	1.69E-10	6.25E+05	6.25E-07
Nd-151	3.82E-11	1.41E+05	1.41E-07
Nd-152	6.50E-11	2.41E+05	2.41E-07
Pm-141	4.66E-11	1.72E+05	1.72E-07
Pm-143	3.00E-10	1.11E+06	1.11E-06
Pm-144	1.24E-09	4.59E+06	4.59E-06
Pm-145	1.48E-10	5.48E+05	5.48E-07
Pm-146	1.18E-09	4.37E+06	4.37E-06
Pm-147	3.63E-10	1.34E+06	1.34E-06

Nuclide	Ingestion Dose Coefficient (Sv/Bq)	Ingestion Dose Coefficient (mrem/Ci)	Ingestion Dose Coefficient (mrem/pCi)
Pm-148	3.68E-09	1.36E+07	1.36E-05
Pm-148m	2.28E-09	8.44E+06	8.44E-06
Pm-149	1.37E-09	5.07E+06	5.07E-06
Pm-150	3.49E-10	1.29E+06	1.29E-06
Pm-151	9.97E-10	3.69E+06	3.69E-06
Sm-140	1.29E-10	4.77E+05	4.77E-07
Sm-141	5.14E-11	1.90E+05	1.90E-07
Sm-141m	8.18E-11	3.03E+05	3.03E-07
Sm-142	2.43E-10	8.99E+05	8.99E-07
Sm-145	2.86E-10	1.06E+06	1.06E-06
Sm-146	7.01E-08	2.59E+08	2.59E-04
Sm-147	6.40E-08	2.37E+08	2.37E-04
Sm-148	5.50E-08	2.04E+08	2.04E-04
Sm-151	1.35E-10	5.00E+05	5.00E-07
Sm-153	1.01E-09	3.74E+06	3.74E-06
Sm-155	3.96E-11	1.47E+05	1.47E-07
Sm-156	3.48E-10	1.29E+06	1.29E-06
Eu-145	8.36E-10	3.09E+06	3.09E-06
Eu-146	1.51E-09	5.59E+06	5.59E-06
Eu-147	5.74E-10	2.12E+06	2.12E-06
Eu-148	1.62E-09	5.99E+06	5.99E-06
Eu-149	2.15E-10	7.96E+05	7.96E-07
Eu-150	1.57E-09	5.81E+06	5.81E-06
Eu-150m	5.27E-10	1.95E+06	1.95E-06
Eu-152	1.74E-09	6.44E+06	6.44E-06
Eu-152m	6.82E-10	2.52E+06	2.52E-06
Eu-152n	1.76E-11	6.51E+04	6.51E-08
Eu-154	2.61E-09	9.66E+06	9.66E-06
Eu-154m	1.06E-11	3.92E+04	3.92E-08
Eu-155	4.52E-10	1.67E+06	1.67E-06
Eu-156	3.07E-09	1.14E+07	1.14E-05
Eu-157	8.37E-10	3.10E+06	3.10E-06
Eu-158	1.21E-10	4.48E+05	4.48E-07
Eu-159	6.57E-11	2.43E+05	2.43E-07
Gd-145	4.40E-11	1.63E+05	1.63E-07
Gd-146	1.26E-09	4.66E+06	4.66E-06
Gd-147	8.15E-10	3.02E+06	3.02E-06
Gd-148	7.19E-08	2.66E+08	2.66E-04
Gd-149	7.15E-10	2.65E+06	2.65E-06
Gd-150	6.78E-08	2.51E+08	2.51E-04

Nuclide	Ingestion Dose Coefficient (Sv/Bq)	Ingestion Dose Coefficient (mrem/Ci)	Ingestion Dose Coefficient (mrem/pCi)
Gd-151	3.07E-10	1.14E+06	1.14E-06
Gd-152	5.32E-08	1.97E+08	1.97E-04
Gd-153	3.74E-10	1.38E+06	1.38E-06
Gd-159	6.95E-10	2.57E+06	2.57E-06
Tb-147	1.62E-10	5.99E+05	5.99E-07
Tb-148	1.63E-10	6.03E+05	6.03E-07
Tb-149	2.40E-10	8.88E+05	8.88E-07
Tb-150	2.81E-10	1.04E+06	1.04E-06
Tb-151	4.66E-10	1.72E+06	1.72E-06
Tb-152	9.18E-10	3.40E+06	3.40E-06
Tb-153	3.78E-10	1.40E+06	1.40E-06
Tb-154	7.92E-10	2.93E+06	2.93E-06
Tb-155	3.51E-10	1.30E+06	1.30E-06
Tb-156	1.48E-09	5.48E+06	5.48E-06
Tb-156m	2.13E-10	7.88E+05	7.88E-07
Tb-156n	1.16E-10	4.29E+05	4.29E-07
Tb-157	5.27E-11	1.95E+05	1.95E-07
Tb-158	1.45E-09	5.37E+06	5.37E-06
Tb-160	2.15E-09	7.96E+06	7.96E-06
Tb-161	1.02E-09	3.77E+06	3.77E-06
Tb-163	2.81E-11	1.04E+05	1.04E-07
Dy-151	2.52E-11	9.32E+04	9.32E-08
Dy-152	1.42E-10	5.25E+05	5.25E-07
Dy-153	2.32E-10	8.58E+05	8.58E-07
Dy-154	7.27E-08	2.69E+08	2.69E-04
Dy-155	1.84E-10	6.81E+05	6.81E-07
Dy-157	7.76E-11	2.87E+05	2.87E-07
Dy-159	1.41E-10	5.22E+05	5.22E-07
Dy-165	1.49E-10	5.51E+05	5.51E-07
Dy-166	2.29E-09	8.47E+06	8.47E-06
Ho-154	5.40E-11	2.00E+05	2.00E-07
Ho-155	5.13E-11	1.90E+05	1.90E-07
Ho-156	1.27E-10	4.70E+05	4.70E-07
Ho-157	9.32E-12	3.45E+04	3.45E-08
Ho-159	1.09E-11	4.03E+04	4.03E-08
Ho-160	2.13E-11	7.88E+04	7.88E-08
Ho-161	1.71E-11	6.33E+04	6.33E-08
Ho-162	4.24E-12	1.57E+04	1.57E-08
Ho-162m	3.27E-11	1.21E+05	1.21E-07
Ho-163	4.00E-12	1.48E+04	1.48E-08

Nuclide	Ingestion Dose Coefficient (Sv/Bq)	Ingestion Dose Coefficient (mrem/Ci)	Ingestion Dose Coefficient (mrem/pCi)
Ho-164	1.27E-11	4.70E+04	4.70E-08
Ho-164m	2.23E-11	8.25E+04	8.25E-08
Ho-166	1.93E-09	7.14E+06	7.14E-06
Ho-166m	2.55E-09	9.44E+06	9.44E-06
Ho-167	1.17E-10	4.33E+05	4.33E-07
Er-156	4.52E-11	1.67E+05	1.67E-07
Er-159	2.92E-11	1.08E+05	1.08E-07
Er-161	1.08E-10	4.00E+05	4.00E-07
Er-163	3.39E-12	1.25E+04	1.25E-08
Er-165	2.57E-11	9.51E+04	9.51E-08
Er-169	5.16E-10	1.91E+06	1.91E-06
Er-171	4.85E-10	1.79E+06	1.79E-06
Er-172	1.40E-09	5.18E+06	5.18E-06
Tm-161	5.05E-11	1.87E+05	1.87E-07
Tm-162	5.17E-11	1.91E+05	1.91E-07
Tm-163	6.97E-11	2.58E+05	2.58E-07
Tm-165	4.65E-10	1.72E+06	1.72E-06
Tm-166	3.62E-10	1.34E+06	1.34E-06
Tm-167	7.91E-10	2.93E+06	2.93E-06
Tm-168	1.34E-09	4.96E+06	4.96E-06
Tm-170	1.81E-09	6.70E+06	6.70E-06
Tm-171	1.48E-10	5.48E+05	5.48E-07
Tm-172	2.32E-09	8.58E+06	8.58E-06
Tm-173	4.07E-10	1.51E+06	1.51E-06
Tm-175	3.42E-11	1.27E+05	1.27E-07
Yb-162	4.05E-11	1.50E+05	1.50E-07
Yb-163	2.07E-11	7.66E+04	7.66E-08
Yb-164	1.22E-10	4.51E+05	4.51E-07
Yb-166	1.23E-09	4.55E+06	4.55E-06
Yb-167	9.01E-12	3.33E+04	3.33E-08
Yb-169	1.10E-09	4.07E+06	4.07E-06
Yb-175	6.03E-10	2.23E+06	2.23E-06
Yb-177	1.25E-10	4.63E+05	4.63E-07
Yb-178	1.58E-10	5.85E+05	5.85E-07
Lu-165	2.85E-11	1.05E+05	1.05E-07
Lu-167	6.14E-11	2.27E+05	2.27E-07
Lu-169	6.77E-10	2.50E+06	2.50E-06
Lu-170	1.22E-09	4.51E+06	4.51E-06
Lu-171	9.05E-10	3.35E+06	3.35E-06
Lu-172	1.69E-09	6.25E+06	6.25E-06

Nuclide	Ingestion Dose Coefficient (Sv/Bq)	Ingestion Dose Coefficient (mrem/Ci)	Ingestion Dose Coefficient (mrem/pCi)
Lu-173	4.87E-10	1.80E+06	1.80E-06
Lu-174	3.83E-10	1.42E+06	1.42E-06
Lu-174m	7.47E-10	2.76E+06	2.76E-06
Lu-176	2.42E-09	8.95E+06	8.95E-06
Lu-176m	2.27E-10	8.40E+05	8.40E-07
Lu-177	7.32E-10	2.71E+06	2.71E-06
Lu-177m	2.27E-09	8.40E+06	8.40E-06
Lu-178	6.25E-11	2.31E+05	2.31E-07
Lu-178m	4.39E-11	1.62E+05	1.62E-07
Lu-179	2.97E-10	1.10E+06	1.10E-06
Hf-170	5.30E-10	1.96E+06	1.96E-06
Hf-172	1.46E-09	5.40E+06	5.40E-06
Hf-173	2.90E-10	1.07E+06	1.07E-06
Hf-174	3.15E-07	1.17E+09	1.17E-03
Hf-175	5.28E-10	1.95E+06	1.95E-06
Hf-177m	1.08E-10	4.00E+05	4.00E-07
Hf-178m	4.97E-09	1.84E+07	1.84E-05
Hf-179m	1.68E-09	6.22E+06	6.22E-06
Hf-180m	2.21E-10	8.18E+05	8.18E-07
Hf-181	1.50E-09	5.55E+06	5.55E-06
Hf-182	3.43E-09	1.27E+07	1.27E-05
Hf-182m	5.94E-11	2.20E+05	2.20E-07
Hf-183	9.87E-11	3.65E+05	3.65E-07
Hf-184	7.06E-10	2.61E+06	2.61E-06
Ta-172	7.55E-11	2.79E+05	2.79E-07
Ta-173	1.44E-10	5.33E+05	5.33E-07
Ta-174	9.51E-11	3.52E+05	3.52E-07
Ta-175	3.04E-10	1.12E+06	1.12E-06
Ta-176	4.00E-10	1.48E+06	1.48E-06
Ta-177	1.46E-10	5.40E+05	5.40E-07
Ta-178m	1.11E-10	4.11E+05	4.11E-07
Ta-179	7.97E-11	2.95E+05	2.95E-07
Ta-180	7.56E-11	2.80E+05	2.80E-07
Ta-182	1.99E-09	7.36E+06	7.36E-06
Ta-182m	1.63E-11	6.03E+04	6.03E-08
Ta-183	1.84E-09	6.81E+06	6.81E-06
Ta-184	8.95E-10	3.31E+06	3.31E-06
Ta-185	9.30E-11	3.44E+05	3.44E-07
Ta-186	4.66E-11	1.72E+05	1.72E-07
W-177	7.19E-11	2.66E+05	2.66E-07

Nuclide	Ingestion Dose Coefficient (Sv/Bq)	Ingestion Dose Coefficient (mrem/Ci)	Ingestion Dose Coefficient (mrem/pCi)
W-178	3.28E-10	1.21E+06	1.21E-06
W-179	4.72E-12	1.75E+04	1.75E-08
W-181	1.13E-10	4.18E+05	4.18E-07
W-185	6.06E-10	2.24E+06	2.24E-06
W-187	7.98E-10	2.95E+06	2.95E-06
W-188	2.85E-09	1.05E+07	1.05E-05
W-190	1.11E-10	4.11E+05	4.11E-07
Re-178	3.68E-11	1.36E+05	1.36E-07
Re-179	1.68E-11	6.22E+04	6.22E-08
Re-181	5.68E-10	2.10E+06	2.10E-06
Re-182	1.87E-09	6.92E+06	6.92E-06
Re-182m	3.76E-10	1.39E+06	1.39E-06
Re-183	1.31E-09	4.85E+06	4.85E-06
Re-184	1.29E-09	4.77E+06	4.77E-06
Re-184m	1.98E-09	7.33E+06	7.33E-06
Re-186	1.99E-09	7.36E+06	7.36E-06
Re-186m	3.04E-09	1.12E+07	1.12E-05
Re-187	6.59E-12	2.44E+04	2.44E-08
Re-188	1.92E-09	7.10E+06	7.10E-06
Re-188m	4.16E-11	1.54E+05	1.54E-07
Re-189	1.04E-09	3.85E+06	3.85E-06
Re-190m	5.04E-10	1.86E+06	1.86E-06
Os-180	2.39E-11	8.84E+04	8.84E-08
Os-181	1.18E-10	4.37E+05	4.37E-07
Os-182	7.50E-10	2.78E+06	2.78E-06
Os-183	2.95E-10	1.09E+06	1.09E-06
Os-183m	2.64E-10	9.77E+05	9.77E-07
Os-185	6.35E-10	2.35E+06	2.35E-06
Os-186	4.29E-08	1.59E+08	1.59E-04
Os-189m	2.36E-11	8.73E+04	8.73E-08
Os-191	7.94E-10	2.94E+06	2.94E-06
Os-191m	1.36E-10	5.03E+05	5.03E-07
Os-193	1.14E-09	4.22E+06	4.22E-06
Os-194	3.40E-09	1.26E+07	1.26E-05
Os-196	1.48E-10	5.48E+05	5.48E-07
Ir-182	6.95E-11	2.57E+05	2.57E-07
Ir-183	6.81E-11	2.52E+05	2.52E-07
Ir-184	2.44E-10	9.03E+05	9.03E-07
Ir-185	4.28E-10	1.58E+06	1.58E-06
Ir-186	7.27E-10	2.69E+06	2.69E-06

Nuclide	Ingestion Dose Coefficient (Sv/Bq)	Ingestion Dose Coefficient (mrem/Ci)	Ingestion Dose Coefficient (mrem/pCi)
Ir-186m	9.38E-11	3.47E+05	3.47E-07
Ir-187	1.52E-10	5.62E+05	5.62E-07
Ir-188	9.62E-10	3.56E+06	3.56E-06
Ir-189	3.27E-10	1.21E+06	1.21E-06
Ir-190	1.36E-09	5.03E+06	5.03E-06
Ir-190m	9.18E-12	3.40E+04	3.40E-08
Ir-190n	1.51E-10	5.59E+05	5.59E-07
Ir-192	1.82E-09	6.73E+06	6.73E-06
Ir-192n	1.24E-09	4.59E+06	4.59E-06
Ir-193m	4.00E-10	1.48E+06	1.48E-06
Ir-194	1.84E-09	6.81E+06	6.81E-06
Ir-194m	2.63E-09	9.73E+06	9.73E-06
Ir-195	1.38E-10	5.11E+05	5.11E-07
Ir-195m	1.83E-10	6.77E+05	6.77E-07
Ir-196m	1.43E-10	5.29E+05	5.29E-07
Pt-184	3.89E-11	1.44E+05	1.44E-07
Pt-186	1.40E-10	5.18E+05	5.18E-07
Pt-187	1.12E-10	4.14E+05	4.14E-07
Pt-188	1.10E-09	4.07E+06	4.07E-06
Pt-189	2.59E-10	9.58E+05	9.58E-07
Pt-190	9.38E-09	3.47E+07	3.47E-05
Pt-191	4.88E-10	1.81E+06	1.81E-06
Pt-193	4.93E-11	1.82E+05	1.82E-07
Pt-193m	6.30E-10	2.33E+06	2.33E-06
Pt-195m	8.83E-10	3.27E+06	3.27E-06
Pt-197	5.95E-10	2.20E+06	2.20E-06
Pt-197m	1.16E-10	4.29E+05	4.29E-07
Pt-199	5.35E-11	1.98E+05	1.98E-07
Pt-200	1.61E-09	5.96E+06	5.96E-06
Pt-202	6.07E-09	2.25E+07	2.25E-05
Au-186	5.91E-11	2.19E+05	2.19E-07
Au-190	5.41E-11	2.00E+05	2.00E-07
Au-191	9.47E-11	3.50E+05	3.50E-07
Au-192	2.19E-10	8.10E+05	8.10E-07
Au-193	1.71E-10	6.33E+05	6.33E-07
Au-194	5.16E-10	1.91E+06	1.91E-06
Au-195	3.55E-10	1.31E+06	1.31E-06
Au-196	4.54E-10	1.68E+06	1.68E-06
Au-196m	5.28E-10	1.95E+06	1.95E-06
Au-198	1.39E-09	5.14E+06	5.14E-06

Nuclide	Ingestion Dose Coefficient (Sv/Bq)	Ingestion Dose Coefficient (mrem/Ci)	Ingestion Dose Coefficient (mrem/pCi)
Au-198m	1.61E-09	5.96E+06	5.96E-06
Au-199	6.08E-10	2.25E+06	2.25E-06
Au-200	9.08E-11	3.36E+05	3.36E-07
Au-200m	1.32E-09	4.88E+06	4.88E-06
Au-201	3.27E-11	1.21E+05	1.21E-07
Hg-190	2.78E-11	1.03E+05	1.03E-07
Hg-191m	6.88E-11	2.55E+05	2.55E-07
Hg-192	2.91E-10	1.08E+06	1.08E-06
Hg-193	1.39E-10	5.14E+05	5.14E-07
Hg-193m	5.62E-10	2.08E+06	2.08E-06
Hg-194	1.56E-09	5.77E+06	5.77E-06
Hg-195	1.37E-10	5.07E+05	5.07E-07
Hg-195m	7.47E-10	2.76E+06	2.76E-06
Hg-197	3.39E-10	1.25E+06	1.25E-06
Hg-197m	6.58E-10	2.43E+06	2.43E-06
Hg-199m	4.11E-11	1.52E+05	1.52E-07
Hg-203	7.23E-10	2.68E+06	2.68E-06
Tl-194	6.05E-11	2.24E+05	2.24E-07
Tl-194m	4.95E-11	1.83E+05	1.83E-07
Tl-195	3.10E-11	1.15E+05	1.15E-07
Tl-196	6.42E-11	2.38E+05	2.38E-07
Tl-197	2.96E-11	1.10E+05	1.10E-07
Tl-198	9.03E-11	3.34E+05	3.34E-07
Tl-198m	7.00E-11	2.59E+05	2.59E-07
Tl-199	3.48E-11	1.29E+05	1.29E-07
Tl-200	2.47E-10	9.14E+05	9.14E-07
Tl-201	1.27E-10	4.70E+05	4.70E-07
Tl-202	5.60E-10	2.07E+06	2.07E-06
Tl-204	1.61E-09	5.96E+06	5.96E-06
Pb-194	2.66E-11	9.84E+04	9.84E-08
Pb-195m	3.20E-11	1.18E+05	1.18E-07
Pb-196	3.45E-11	1.28E+05	1.28E-07
Pb-197m	5.73E-11	2.12E+05	2.12E-07
Pb-198	9.71E-11	3.59E+05	3.59E-07
Pb-199	4.89E-11	1.81E+05	1.81E-07
Pb-200	4.76E-10	1.76E+06	1.76E-06
Pb-201	1.97E-10	7.29E+05	7.29E-07
Pb-202	2.09E-08	7.73E+07	7.73E-05
Pb-202m	1.80E-10	6.66E+05	6.66E-07
Pb-203	3.07E-10	1.14E+06	1.14E-06

Nuclide	Ingestion Dose Coefficient (Sv/Bq)	Ingestion Dose Coefficient (mrem/Ci)	Ingestion Dose Coefficient (mrem/pCi)
Pb-204m	6.01E-11	2.22E+05	2.22E-07
Pb-205	3.52E-10	1.30E+06	1.30E-06
Pb-209	7.47E-11	2.76E+05	2.76E-07
Pb-210	1.02E-06	3.77E+09	3.77E-03
Pb-211	2.62E-10	9.69E+05	9.69E-07
Pb-212	1.03E-08	3.81E+07	3.81E-05
Pb-214	1.99E-10	7.36E+05	7.36E-07
Bi-200	7.16E-11	2.65E+05	2.65E-07
Bi-201	1.49E-10	5.51E+05	5.51E-07
Bi-202	1.26E-10	4.66E+05	4.66E-07
Bi-203	6.26E-10	2.32E+06	2.32E-06
Bi-204	7.22E-10	2.67E+06	2.67E-06
Bi-205	1.15E-09	4.26E+06	4.26E-06
Bi-206	2.47E-09	9.14E+06	9.14E-06
Bi-207	1.65E-09	6.11E+06	6.11E-06
Bi-208	1.44E-09	5.33E+06	5.33E-06
Bi-210	1.80E-09	6.66E+06	6.66E-06
Bi-210m	2.01E-08	7.44E+07	7.44E-05
Bi-212	3.52E-10	1.30E+06	1.30E-06
Bi-213	2.68E-10	9.92E+05	9.92E-07
Bi-214	1.49E-10	5.51E+05	5.51E-07
Po-203	6.79E-11	2.51E+05	2.51E-07
Po-204	3.77E-10	1.39E+06	1.39E-06
Po-205	7.06E-11	2.61E+05	2.61E-07
Po-206	6.50E-09	2.41E+07	2.41E-05
Po-207	1.74E-10	6.44E+05	6.44E-07
Po-208	4.43E-07	1.64E+09	1.64E-03
Po-209	4.40E-07	1.63E+09	1.63E-03
Po-210	3.56E-07	1.32E+09	1.32E-03
At-205	7.85E-11	2.90E+05	2.90E-07
At-206	8.70E-11	3.22E+05	3.22E-07
At-207	3.02E-10	1.12E+06	1.12E-06
At-208	1.18E-10	4.37E+05	4.37E-07
At-209	5.04E-10	1.86E+06	1.86E-06
At-210	1.17E-09	4.33E+06	4.33E-06
At-211	1.48E-08	5.48E+07	5.48E-05
Fr-212	8.82E-10	3.26E+06	3.26E-06
Fr-222	8.94E-10	3.31E+06	3.31E-06
Fr-223	3.23E-09	1.20E+07	1.20E-05
Ra-223	2.17E-07	8.03E+08	8.03E-04

Nuclide	Ingestion Dose Coefficient (Sv/Bq)	Ingestion Dose Coefficient (mrem/Ci)	Ingestion Dose Coefficient (mrem/pCi)
Ra-224	1.26E-07	4.66E+08	4.66E-04
Ra-225	2.38E-07	8.81E+08	8.81E-04
Ra-226	4.53E-07	1.68E+09	1.68E-03
Ra-227	1.11E-10	4.11E+05	4.11E-07
Ra-228	1.60E-06	5.92E+09	5.92E-03
Ra-230	2.41E-10	8.92E+05	8.92E-07
Ac-224	2.78E-09	1.03E+07	1.03E-05
Ac-225	5.23E-08	1.94E+08	1.94E-04
Ac-226	1.45E-08	5.37E+07	5.37E-05
Ac-227	3.92E-07	1.45E+09	1.45E-03
Ac-228	5.14E-10	1.90E+06	1.90E-06
Th-226	4.76E-10	1.76E+06	1.76E-06
Th-227	1.47E-08	5.44E+07	5.44E-05
Th-228	1.16E-07	4.29E+08	4.29E-04
Th-229	6.09E-07	2.25E+09	2.25E-03
Th-230	2.53E-07	9.36E+08	9.36E-04
Th-231	4.61E-10	1.71E+06	1.71E-06
Th-232	2.78E-07	1.03E+09	1.03E-03
Th-233	2.93E-11	1.08E+05	1.08E-07
Th-234	4.68E-09	1.73E+07	1.73E-05
Th-236	1.17E-10	4.33E+05	4.33E-07
Pa-227	6.17E-10	2.28E+06	2.28E-06
Pa-228	1.08E-09	4.00E+06	4.00E-06
Pa-229	1.13E-10	4.18E+05	4.18E-07
Pa-230	1.21E-09	4.48E+06	4.48E-06
Pa-231	5.59E-07	2.07E+09	2.07E-03
Pa-232	8.87E-10	3.28E+06	3.28E-06
Pa-233	1.32E-09	4.88E+06	4.88E-06
Pa-234	5.56E-10	2.06E+06	2.06E-06
Pa-235	3.57E-11	1.32E+05	1.32E-07
U-230	7.21E-08	2.67E+08	2.67E-04
U-231	4.63E-10	1.71E+06	1.71E-06
U-232	4.04E-07	1.49E+09	1.49E-03
U-233	6.02E-08	2.23E+08	2.23E-04
U-234	5.81E-08	2.15E+08	2.15E-04
U-235	5.49E-08	2.03E+08	2.03E-04
U-235m	5.82E-15	2.15E+01	2.15E-11
U-236	5.47E-08	2.02E+08	2.02E-04
U-237	1.06E-09	3.92E+06	3.92E-06
U-238	5.24E-08	1.94E+08	1.94E-04

Nuclide	Ingestion Dose Coefficient (Sv/Bq)	Ingestion Dose Coefficient (mrem/Ci)	Ingestion Dose Coefficient (mrem/pCi)
U-239	3.73E-11	1.38E+05	1.38E-07
U-240	1.50E-09	5.55E+06	5.55E-06
U-242	7.07E-11	2.62E+05	2.62E-07
Np-232	1.24E-11	4.59E+04	4.59E-08
Np-233	2.94E-12	1.09E+04	1.09E-08
Np-234	8.26E-10	3.06E+06	3.06E-06
Np-235	7.96E-11	2.95E+05	2.95E-07
Np-236	2.70E-08	9.99E+07	9.99E-05
Np-236m	2.67E-10	9.88E+05	9.88E-07
Np-237	1.25E-07	4.63E+08	4.63E-04
Np-238	1.20E-09	4.44E+06	4.44E-06
Np-239	1.11E-09	4.11E+06	4.11E-06
Np-240	9.59E-11	3.55E+05	3.55E-07
Np-241	2.09E-11	7.73E+04	7.73E-08
Pu-232	1.84E-10	6.81E+05	6.81E-07
Pu-234	2.08E-10	7.70E+05	7.70E-07
Pu-235	2.95E-12	1.09E+04	1.09E-08
Pu-236	1.10E-07	4.07E+08	4.07E-04
Pu-237	1.51E-10	5.59E+05	5.59E-07
Pu-238	2.63E-07	9.73E+08	9.73E-04
Pu-239	2.88E-07	1.07E+09	1.07E-03
Pu-240	2.88E-07	1.07E+09	1.07E-03
Pu-241	5.21E-09	1.93E+07	1.93E-05
Pu-242	2.74E-07	1.01E+09	1.01E-03
Pu-243	1.17E-10	4.33E+05	4.33E-07
Pu-244	2.73E-07	1.01E+09	1.01E-03
Pu-245	9.34E-10	3.46E+06	3.46E-06
Pu-246	3.80E-09	1.41E+07	1.41E-05
Am-237	2.38E-11	8.81E+04	8.81E-08
Am-238	4.05E-11	1.50E+05	1.50E-07
Am-239	3.32E-10	1.23E+06	1.23E-06
Am-240	7.63E-10	2.82E+06	2.82E-06
Am-241	2.38E-07	8.81E+08	8.81E-04
Am-242	4.22E-10	1.56E+06	1.56E-06
Am-242m	2.16E-07	7.99E+08	7.99E-04
Am-243	2.36E-07	8.73E+08	8.73E-04
Am-244	6.14E-10	2.27E+06	2.27E-06
Am-244m	4.01E-11	1.48E+05	1.48E-07
Am-245	8.45E-11	3.13E+05	3.13E-07
Am-246	8.51E-11	3.15E+05	3.15E-07

Nuclide	Ingestion Dose Coefficient (Sv/Bq)	Ingestion Dose Coefficient (mrem/Ci)	Ingestion Dose Coefficient (mrem/pCi)
Am-246m	4.58E-11	1.69E+05	1.69E-07
Am-247	4.09E-11	1.51E+05	1.51E-07
Cm-238	8.17E-11	3.02E+05	3.02E-07
Cm-239	1.09E-10	4.03E+05	4.03E-07
Cm-240	1.12E-08	4.14E+07	4.14E-05
Cm-241	1.24E-09	4.59E+06	4.59E-06
Cm-242	1.92E-08	7.10E+07	7.10E-05
Cm-243	1.80E-07	6.66E+08	6.66E-04
Cm-244	1.51E-07	5.59E+08	5.59E-04
Cm-245	2.42E-07	8.95E+08	8.95E-04
Cm-246	2.41E-07	8.92E+08	8.92E-04
Cm-247	2.22E-07	8.21E+08	8.21E-04
Cm-248	9.03E-07	3.34E+09	3.34E-03
Cm-249	4.23E-11	1.57E+05	1.57E-07
Cm-250	6.18E-06	2.29E+10	2.29E-02
Cm-251	3.87E-11	1.43E+05	1.43E-07
Bk-245	7.83E-10	2.90E+06	2.90E-06
Bk-246	5.82E-10	2.15E+06	2.15E-06
Bk-247	4.43E-07	1.64E+09	1.64E-03
Bk-248m	6.05E-10	2.24E+06	2.24E-06
Bk-249	1.25E-09	4.63E+06	4.63E-06
Bk-250	1.83E-10	6.77E+05	6.77E-07
Bk-251	5.11E-11	1.89E+05	1.89E-07
Cf-244	9.55E-11	3.53E+05	3.53E-07
Cf-246	4.63E-09	1.71E+07	1.71E-05
Cf-247	2.90E-11	1.07E+05	1.07E-07
Cf-248	4.68E-08	1.73E+08	1.73E-04
Cf-249	4.46E-07	1.65E+09	1.65E-03
Cf-250	2.22E-07	8.21E+08	8.21E-04
Cf-251	4.55E-07	1.68E+09	1.68E-03
Cf-252	1.51E-07	5.59E+08	5.59E-04
Cf-253	2.76E-09	1.02E+07	1.02E-05
Cf-254	6.02E-07	2.23E+09	2.23E-03
Cf-255	5.46E-11	2.02E+05	2.02E-07
Es-249	2.73E-11	1.01E+05	1.01E-07
Es-250	6.20E-10	2.29E+06	2.29E-06
Es-250m	3.93E-11	1.45E+05	1.45E-07
Es-251	2.45E-10	9.07E+05	9.07E-07
Es-253	9.21E-09	3.41E+07	3.41E-05
Es-254	4.59E-08	1.70E+08	1.70E-04

Nuclide	Ingestion Dose Coefficient (Sv/Bq)	Ingestion Dose Coefficient (mrem/Ci)	Ingestion Dose Coefficient (mrem/pCi)
Es-254m	5.99E-09	2.22E+07	2.22E-05
Es-255	9.91E-09	3.67E+07	3.67E-05
Es-256	3.87E-09	1.43E+07	1.43E-05
Fm-251	9.83E-11	3.64E+05	3.64E-07
Fm-252	4.01E-09	1.48E+07	1.48E-05
Fm-253	1.74E-09	6.44E+06	6.44E-06
Fm-254	6.29E-10	2.33E+06	2.33E-06
Fm-255	3.55E-09	1.31E+07	1.31E-05
Fm-256	2.50E-08	9.25E+07	9.25E-05
Fm-257	2.94E-08	1.09E+08	1.09E-04

APPENDIX B

REFERENCE PERSON INHALATION DOSE COEFFICIENTS

Appendix B tabulates the inhalation dose coefficients used in calculating the DCS. The dose coefficients are from DOE Standard (DOE-STD-1196-2011): Derived Concentration Technical Standard.

Table B-1 Inhalation Dose Coefficients

Nuclide	Inhalation Dose Coefficient (Sv/Bq)	Inhalation Dose Coefficient (mrem/pCi)
H-3	1.93E-11	7.14E-08
Be-7	6.40E-11	2.37E-07
Be-10	3.66E-08	1.35E-04
C-11	2.56E-12	9.47E-09
C-14	6.70E-12	2.48E-08
F-18	6.64E-11	2.46E-07
Na-22	3.15E-08	1.17E-04
Na-24	5.83E-10	2.16E-06
Mg-28	1.50E-09	5.55E-06
Al-26	1.14E-07	4.22E-04
Si-31	9.30E-11	3.44E-07
Si-32	1.16E-07	4.29E-04
P-32	4.38E-09	1.62E-05
P-33	1.96E-09	7.25E-06
S-35	1.56E-09	5.77E-06
S-38	3.33E-10	1.23E-06
Cl-34m	5.50E-11	2.04E-07
Cl-36	3.99E-08	1.48E-04
Cl-38	5.70E-11	2.11E-07
Cl-39	5.79E-11	2.14E-07
K-40	8.87E-08	3.28E-04
K-42	4.08E-10	1.51E-06
K-43	4.32E-10	1.60E-06
K-44	3.99E-11	1.48E-07
K-45	2.63E-11	9.73E-08
Ca-41	1.27E-10	4.70E-07
Ca-45	2.99E-09	1.11E-05
Ca-47	2.14E-09	7.92E-06
Sc-43	1.49E-10	5.51E-07
Sc-44	2.23E-10	8.25E-07
Sc-44m	1.69E-09	6.25E-06
Sc-46	7.60E-09	2.81E-05
Sc-47	8.12E-10	3.00E-06

Nuclide	Inhalation Dose Coefficient (Sv/Bq)	Inhalation Dose Coefficient (mrem/pCi)
Sc-48	1.30E-09	4.81E-06
Sc-49	4.67E-11	1.73E-07
Ti-44	1.33E-07	4.92E-04
Ti-45	1.11E-10	4.11E-07
V-47	3.66E-11	1.35E-07
V-48	3.09E-09	1.14E-05
V-49	7.97E-11	2.95E-07
V-50	6.69E-08	2.48E-04
Cr-48	2.43E-10	8.99E-07
Cr-49	4.18E-11	1.55E-07
Cr-51	4.34E-11	1.61E-07
Mn-51	5.17E-11	1.91E-07
Mn-52	1.66E-09	6.14E-06
Mn-52m	3.55E-11	1.31E-07
Mn-53	3.65E-10	1.35E-06
Mn-54	3.60E-09	1.33E-05
Mn-56	1.54E-10	5.70E-07
Fe-52	7.33E-10	2.71E-06
Fe-55	4.37E-10	1.62E-06
Fe-59	4.12E-09	1.52E-05
Fe-60	1.45E-07	5.37E-04
Co-55	5.99E-10	2.22E-06
Co-56	5.40E-09	2.00E-05
Co-57	6.18E-10	2.29E-06
Co-58	1.78E-09	6.59E-06
Co-58m	1.56E-11	5.77E-08
Co-60	1.12E-08	4.14E-05
Co-60m	1.36E-12	5.03E-09
Co-61	5.58E-11	2.06E-07
Co-62m	2.44E-11	9.03E-08
Ni-56	1.01E-09	3.74E-06
Ni-57	6.13E-10	2.27E-06
Ni-59	1.48E-10	5.48E-07
Ni-63	5.43E-10	2.01E-06
Ni-65	1.01E-10	3.74E-07
Ni-66	1.94E-09	7.18E-06
Cu-60	4.22E-11	1.56E-07

Nuclide	Inhalation Dose Coefficient (Sv/Bq)	Inhalation Dose Coefficient (mrem/pCi)
Cu-61	9.02E-11	3.34E-07
Cu-64	1.36E-10	5.03E-07
Cu-67	6.61E-10	2.45E-06
Zn-62	6.08E-10	2.25E-06
Zn-63	4.23E-11	1.57E-07
Zn-65	1.80E-09	6.66E-06
Zn-69	3.03E-11	1.12E-07
Zn-69m	2.93E-10	1.08E-06
Zn-71m	1.84E-10	6.81E-07
Zn-72	1.42E-09	5.25E-06
Ga-65	2.06E-11	7.62E-08
Ga-66	5.70E-10	2.11E-06
Ga-67	3.01E-10	1.11E-06
Ga-68	6.14E-11	2.27E-07
Ga-70	1.95E-11	7.22E-08
Ga-72	6.72E-10	2.49E-06
Ga-73	1.83E-10	6.77E-07
Ge-66	1.10E-10	4.07E-07
Ge-67	2.97E-11	1.10E-07
Ge-68	3.35E-08	1.24E-04
Ge-69	2.93E-10	1.08E-06
Ge-71	1.44E-11	5.33E-08
Ge-75	4.48E-11	1.66E-07
Ge-77	4.50E-10	1.67E-06
Ge-78	1.15E-10	4.26E-07
As-69	2.57E-11	9.51E-08
As-70	8.64E-11	3.20E-07
As-71	4.54E-10	1.68E-06
As-72	1.14E-09	4.22E-06
As-73	1.52E-09	5.62E-06
As-74	2.78E-09	1.03E-05
As-76	9.12E-10	3.37E-06
As-77	4.83E-10	1.79E-06
As-78	1.08E-10	4.00E-07
Se-70	4.65E-11	1.72E-07
Se-72	2.84E-09	1.05E-05
Se-73	1.06E-10	3.92E-07

Nuclide	Inhalation Dose Coefficient (Sv/Bq)	Inhalation Dose Coefficient (mrem/pCi)
Se-73m	1.20E-11	4.44E-08
Se-75	1.24E-09	4.59E-06
Se-79	1.68E-09	6.22E-06
Se-81	9.61E-12	3.56E-08
Se-81m	2.03E-11	7.51E-08
Se-83	2.21E-11	8.18E-08
Br-74	4.75E-11	1.76E-07
Br-74m	8.06E-11	2.98E-07
Br-75	6.63E-11	2.45E-07
Br-76	5.09E-10	1.88E-06
Br-77	1.07E-10	3.96E-07
Br-80	1.73E-11	6.40E-08
Br-80m	1.25E-10	4.63E-07
Br-82	7.72E-10	2.86E-06
Br-83	6.04E-11	2.23E-07
Br-84	4.62E-11	1.71E-07
Rb-78	3.55E-11	1.31E-07
Rb-79	3.42E-11	1.27E-07
Rb-81	8.35E-11	3.09E-07
Rb-81m	1.92E-11	7.10E-08
Rb-82m	1.78E-10	6.59E-07
Rb-83	1.56E-09	5.77E-06
Rb-84	3.24E-09	1.20E-05
Rb-84m	1.01E-11	3.74E-08
Rb-86	5.27E-09	1.95E-05
Rb-87	1.68E-08	6.22E-05
Rb-88	3.33E-11	1.23E-07
Rb-89	2.64E-11	9.77E-08
Sr-80	1.81E-10	6.70E-07
Sr-81	3.72E-11	1.38E-07
Sr-82	1.02E-08	3.77E-05
Sr-83	3.93E-10	1.45E-06
Sr-85	7.45E-10	2.76E-06
Sr-85m	4.96E-12	1.84E-08
Sr-87m	2.40E-11	8.88E-08
Sr-89	6.83E-09	2.53E-05
Sr-90	3.92E-08	1.45E-04

Nuclide	Inhalation Dose Coefficient (Sv/Bq)	Inhalation Dose Coefficient (mrem/pCi)
Sr-91	4.44E-10	1.64E-06
Sr-92	2.50E-10	9.25E-07
Y-84m	7.50E-11	2.78E-07
Y-85	1.16E-10	4.29E-07
Y-85m	2.04E-10	7.55E-07
Y-86	5.69E-10	2.11E-06
Y-86m	3.42E-11	1.27E-07
Y-87	4.64E-10	1.72E-06
Y-87m	1.66E-10	6.14E-07
Y-88	6.89E-09	2.55E-05
Y-90	1.77E-09	6.55E-06
Y-90m	1.20E-10	4.44E-07
Y-91	9.91E-09	3.67E-05
Y-91m	1.33E-11	4.92E-08
Y-92	2.15E-10	7.96E-07
Y-93	5.20E-10	1.92E-06
Y-94	3.29E-11	1.22E-07
Y-95	1.81E-11	6.70E-08
Zr-86	5.07E-10	1.88E-06
Zr-87	1.02E-10	3.77E-07
Zr-88	2.86E-09	1.06E-05
Zr-89	6.15E-10	2.28E-06
Zr-93	9.02E-09	3.34E-05
Zr-95	5.29E-09	1.96E-05
Zr-97	1.10E-09	4.07E-06
Nb-88	3.54E-11	1.31E-07
Nb-89	1.37E-10	5.07E-07
Nb-89m	8.03E-11	2.97E-07
Nb-90	7.63E-10	2.82E-06
Nb-91	3.03E-10	1.12E-06
Nb-91m	3.65E-09	1.35E-05
Nb-92	5.46E-09	2.02E-05
Nb-92m	5.00E-10	1.85E-06
Nb-93m	6.11E-10	2.26E-06
Nb-94	1.18E-08	4.37E-05
Nb-95	1.64E-09	6.07E-06
Nb-95m	8.97E-10	3.32E-06

Nuclide	Inhalation Dose Coefficient (Sv/Bq)	Inhalation Dose Coefficient (mrem/pCi)
Nb-96	7.48E-10	2.77E-06
Nb-97	5.06E-11	1.87E-07
Nb-98m	6.78E-11	2.51E-07
Mo-90	4.00E-10	1.48E-06
Mo-91	2.39E-11	8.84E-08
Mo-93	6.06E-10	2.24E-06
Mo-93m	2.05E-10	7.59E-07
Mo-99	1.03E-09	3.81E-06
Mo-101	2.96E-11	1.10E-07
Mo-102	2.89E-11	1.07E-07
Tc-93	5.53E-11	2.05E-07
Tc-93m	2.48E-11	9.18E-08
Tc-94	1.53E-10	5.66E-07
Tc-94m	5.58E-11	2.06E-07
Tc-95	1.31E-10	4.85E-07
Tc-95m	1.04E-09	3.85E-06
Tc-96	8.29E-10	3.07E-06
Tc-96m	8.89E-12	3.29E-08
Tc-97	2.52E-10	9.32E-07
Tc-97m	3.55E-09	1.31E-05
Tc-98	8.70E-09	3.22E-05
Tc-99	4.42E-09	1.64E-05
Tc-99m	2.24E-11	8.29E-08
Tc-101	1.40E-11	5.18E-08
Tc-104	3.49E-11	1.29E-07
Ru-94	5.21E-11	1.93E-07
Ru-95	4.29E-11	1.59E-07
Ru-97	1.24E-10	4.59E-07
Ru-103	2.61E-09	9.66E-06
Ru-105	2.18E-10	8.07E-07
Ru-106	3.10E-08	1.15E-04
Rh-97	2.84E-11	1.05E-07
Rh-97m	3.30E-11	1.22E-07
Rh-99	1.41E-09	5.22E-06
Rh-99m	4.91E-11	1.82E-07
Rh-100	4.15E-10	1.54E-06
Rh-101	5.56E-09	2.06E-05

Nuclide	Inhalation Dose Coefficient (Sv/Bq)	Inhalation Dose Coefficient (mrem/pCi)
Rh-101m	2.38E-10	8.81E-07
Rh-102	8.01E-09	2.96E-05
Rh-102m	2.13E-08	7.88E-05
Rh-103m	3.10E-12	1.15E-08
Rh-105	4.02E-10	1.49E-06
Rh-106m	1.32E-10	4.88E-07
Rh-107	1.95E-11	7.22E-08
Pd-98	3.35E-11	1.24E-07
Pd-99	2.28E-11	8.44E-08
Pd-100	9.38E-10	3.47E-06
Pd-101	7.37E-11	2.73E-07
Pd-103	5.00E-10	1.85E-06
Pd-107	6.59E-10	2.44E-06
Pd-109	4.40E-10	1.63E-06
Pd-111	3.14E-11	1.16E-07
Pd-112	1.32E-09	4.88E-06
Ag-101	1.60E-11	5.92E-08
Ag-102	2.15E-11	7.96E-08
Ag-103	2.93E-11	1.08E-07
Ag-104	4.45E-11	1.65E-07
Ag-104m	3.46E-11	1.28E-07
Ag-105	8.50E-10	3.15E-06
Ag-106	1.75E-11	6.48E-08
Ag-108m	8.30E-09	3.07E-05
Ag-110m	8.68E-09	3.21E-05
Ag-111	1.75E-09	6.48E-06
Ag-112	1.97E-10	7.29E-07
Ag-113	1.83E-10	6.77E-07
Ag-115	3.20E-11	1.18E-07
Cd-104	5.86E-11	2.17E-07
Cd-105	2.86E-11	1.06E-07
Cd-107	9.49E-11	3.51E-07
Cd-109	9.25E-09	3.42E-05
Cd-111m	2.66E-11	9.84E-08
Cd-113	1.24E-07	4.59E-04
Cd-113m	1.17E-07	4.33E-04
Cd-115	1.25E-09	4.63E-06

Nuclide	Inhalation Dose Coefficient (Sv/Bq)	Inhalation Dose Coefficient (mrem/pCi)
Cd-115m	8.50E-09	3.15E-05
Cd-117	2.02E-10	7.47E-07
Cd-117m	2.44E-10	9.03E-07
Cd-118	9.60E-11	3.55E-07
In-107	3.06E-11	1.13E-07
In-108	5.71E-11	2.11E-07
In-108m	4.53E-11	1.68E-07
In-109	4.69E-11	1.74E-07
In-110	1.64E-10	6.07E-07
In-110m	6.01E-11	2.22E-07
In-111	2.87E-10	1.06E-06
In-112	9.42E-12	3.49E-08
In-112m	2.60E-11	9.62E-08
In-113m	2.50E-11	9.25E-08
In-114m	1.50E-08	5.55E-05
In-115	4.09E-07	1.51E-03
In-115m	7.41E-11	2.74E-07
In-116m	5.65E-11	2.09E-07
In-117	3.53E-11	1.31E-07
In-117m	8.94E-11	3.31E-07
In-119m	2.19E-11	8.10E-08
Sn-108	1.40E-11	5.18E-08
Sn-109	1.44E-11	5.33E-08
Sn-110	2.04E-10	7.55E-07
Sn-111	1.53E-11	5.66E-08
Sn-113	4.44E-09	1.64E-05
Sn-113m	5.19E-12	1.92E-08
Sn-117m	3.10E-09	1.15E-05
Sn-119m	3.79E-09	1.40E-05
Sn-121	2.84E-10	1.05E-06
Sn-121m	1.59E-08	5.88E-05
Sn-123	1.42E-08	5.25E-05
Sn-123m	3.33E-11	1.23E-07
Sn-125	3.97E-09	1.47E-05
Sn-126	1.66E-07	6.14E-04
Sn-127	1.66E-10	6.14E-07
Sn-128	1.14E-10	4.22E-07

Nuclide	Inhalation Dose Coefficient (Sv/Bq)	Inhalation Dose Coefficient (mrem/pCi)
Sb-115	1.57E-11	5.81E-08
Sb-116	1.70E-11	6.29E-08
Sb-116m	5.47E-11	2.02E-07
Sb-117	1.99E-11	7.36E-08
Sb-118m	1.47E-10	5.44E-07
Sb-119	4.61E-11	1.71E-07
Sb-120	8.39E-12	3.10E-08
Sb-120m	1.20E-09	4.44E-06
Sb-122	1.22E-09	4.51E-06
Sb-124	7.15E-09	2.65E-05
Sb-124n	7.48E-12	2.77E-08
Sb-125	5.33E-09	1.97E-05
Sb-126	3.54E-09	1.31E-05
Sb-126m	2.30E-11	8.51E-08
Sb-127	1.92E-09	7.10E-06
Sb-128	5.04E-10	1.86E-06
Sb-128m	1.72E-11	6.36E-08
Sb-129	2.83E-10	1.05E-06
Sb-130	6.20E-11	2.29E-07
Te-114	3.34E-11	1.24E-07
Te-116	1.43E-10	5.29E-07
Te-117	3.76E-11	1.39E-07
Te-118	2.68E-09	9.92E-06
Te-119	1.26E-10	4.66E-07
Te-119m	6.12E-10	2.26E-06
Te-121	4.78E-10	1.77E-06
Te-121m	4.73E-09	1.75E-05
Te-123	5.83E-10	2.16E-06
Te-123m	4.39E-09	1.62E-05
Te-125m	3.70E-09	1.37E-05
Te-127	1.51E-10	5.59E-07
Te-127m	8.23E-09	3.05E-05
Te-129	4.35E-11	1.61E-07
Te-129m	7.26E-09	2.69E-05
Te-131	3.38E-11	1.25E-07
Te-131m	1.25E-09	4.63E-06
Te-132	2.48E-09	9.18E-06

Nuclide	Inhalation Dose Coefficient (Sv/Bq)	Inhalation Dose Coefficient (mrem/pCi)
Te-133	2.35E-11	8.70E-08
Te-133m	9.37E-11	3.47E-07
Te-134	7.56E-11	2.80E-07
I-118	2.03E-10	7.51E-07
I-119	5.66E-11	2.09E-07
I-120	3.24E-10	1.20E-06
I-120m	1.62E-10	5.99E-07
I-121	9.60E-11	3.55E-07
I-123	2.85E-10	1.05E-06
I-124	1.57E-08	5.81E-05
I-125	1.65E-08	6.11E-05
I-126	3.44E-08	1.27E-04
I-129	1.08E-07	4.00E-04
I-130	2.36E-09	8.73E-06
I-131	2.61E-08	9.66E-05
I-132	3.87E-10	1.43E-06
I-132m	2.96E-10	1.10E-06
I-133	5.48E-09	2.03E-05
I-134	1.62E-10	5.99E-07
I-135	1.16E-09	4.29E-06
Cs-125	1.35E-11	5.00E-08
Cs-127	2.49E-11	9.21E-08
Cs-129	5.16E-11	1.91E-07
Cs-130	9.21E-12	3.41E-08
Cs-131	3.30E-11	1.22E-07
Cs-132	2.74E-10	1.01E-06
Cs-134	6.56E-09	2.43E-05
Cs-134m	1.69E-11	6.25E-08
Cs-135	9.13E-10	3.38E-06
Cs-135m	1.45E-11	5.37E-08
Cs-136	1.38E-09	5.11E-06
Cs-137	4.60E-09	1.70E-05
Cs-138	3.13E-11	1.16E-07
Ba-124	2.63E-11	9.73E-08
Ba-126	1.29E-10	4.77E-07
Ba-127	1.30E-11	4.81E-08
Ba-128	1.56E-09	5.77E-06

Nuclide	Inhalation Dose Coefficient (Sv/Bq)	Inhalation Dose Coefficient (mrem/pCi)
Ba-129	3.31E-11	1.22E-07
Ba-129m	5.44E-11	2.01E-07
Ba-131	8.46E-10	3.13E-06
Ba-131m	8.48E-12	3.14E-08
Ba-133	3.68E-09	1.36E-05
Ba-133m	4.98E-10	1.84E-06
Ba-135m	3.86E-10	1.43E-06
Ba-139	6.70E-11	2.48E-07
Ba-140	5.70E-09	2.11E-05
Ba-141	3.98E-11	1.47E-07
Ba-142	2.45E-11	9.07E-08
La-129	1.48E-11	5.48E-08
La-131	2.80E-11	1.04E-07
La-132	2.19E-10	8.10E-07
La-132m	2.51E-11	9.29E-08
La-133	2.08E-11	7.70E-08
La-135	1.84E-11	6.81E-08
La-137	9.43E-09	3.49E-05
La-138	1.62E-07	5.99E-04
La-140	1.35E-09	5.00E-06
La-141	1.93E-10	7.14E-07
La-142	1.07E-10	3.96E-07
La-143	2.71E-11	1.00E-07
Ce-130	4.09E-11	1.51E-07
Ce-131	1.62E-11	5.99E-08
Ce-132	1.65E-10	6.11E-07
Ce-133	5.90E-11	2.18E-07
Ce-133m	1.38E-10	5.11E-07
Ce-134	1.60E-09	5.92E-06
Ce-135	1.63E-10	6.03E-07
Ce-137	1.31E-11	4.85E-08
Ce-137m	4.82E-10	1.78E-06
Ce-139	1.89E-09	6.99E-06
Ce-141	3.54E-09	1.31E-05
Ce-143	8.83E-10	3.27E-06
Ce-144	4.05E-08	1.50E-04
Pr-134	2.52E-11	9.32E-08

Nuclide	Inhalation Dose Coefficient (Sv/Bq)	Inhalation Dose Coefficient (mrem/pCi)
Pr-134m	3.83E-11	1.42E-07
Pr-135	2.45E-11	9.07E-08
Pr-136	1.68E-11	6.22E-08
Pr-137	2.30E-11	8.51E-08
Pr-138m	9.08E-11	3.36E-07
Pr-139	2.41E-11	8.92E-08
Pr-142	6.67E-10	2.47E-06
Pr-142m	8.49E-12	3.14E-08
Pr-143	2.72E-09	1.01E-05
Pr-144	2.18E-11	8.07E-08
Pr-145	2.01E-10	7.44E-07
Pr-146	3.58E-11	1.32E-07
Pr-147	2.12E-11	7.84E-08
Nd-135	3.18E-11	1.18E-07
Nd-136	6.11E-11	2.26E-07
Nd-136	6.38E-11	2.36E-07
Nd-137	2.02E-11	7.47E-08
Nd-137	3.39E-11	1.25E-07
Nd-138	3.03E-10	1.12E-06
Nd-139	1.25E-11	4.63E-08
Nd-139	1.31E-11	4.85E-08
Nd-139m	1.11E-10	4.11E-07
Nd-139m	1.81E-10	6.70E-07
Nd-140	1.33E-09	4.92E-06
Nd-141	6.15E-12	2.28E-08
Nd-141	6.38E-12	2.36E-08
Nd-144	2.01E-05	7.44E-02
Nd-144	8.12E-06	3.00E-02
Nd-147	2.67E-09	9.88E-06
Nd-149	1.06E-10	3.92E-07
Nd-151	2.05E-11	7.59E-08
Nd-152	2.80E-11	1.04E-07
Pm-141	1.73E-11	6.40E-08
Pm-143	3.27E-09	1.21E-05
Pm-144	1.91E-08	7.07E-05
Pm-145	8.62E-09	3.19E-05
Pm-146	4.78E-08	1.77E-04

Nuclide	Inhalation Dose Coefficient (Sv/Bq)	Inhalation Dose Coefficient (mrem/pCi)
Pm-147	7.97E-09	2.95E-05
Pm-148	2.51E-09	9.29E-06
Pm-148m	6.29E-09	2.33E-05
Pm-149	8.38E-10	3.10E-06
Pm-150	1.56E-10	5.77E-07
Pm-151	5.55E-10	2.05E-06
Sm-140	3.92E-11	1.45E-07
Sm-141	1.90E-11	7.03E-08
Sm-141m	3.89E-11	1.44E-07
Sm-142	8.87E-11	3.28E-07
Sm-145	3.30E-09	1.22E-05
Sm-146	2.67E-05	9.88E-02
Sm-147	2.44E-05	9.03E-02
Sm-148	2.10E-05	7.77E-02
Sm-151	9.84E-09	3.64E-05
Sm-153	7.90E-10	2.92E-06
Sm-155	2.10E-11	7.77E-08
Sm-156	2.78E-10	1.03E-06
Eu-145	6.09E-10	2.25E-06
Eu-146	9.31E-10	3.44E-06
Eu-147	1.31E-09	4.85E-06
Eu-148	4.14E-09	1.53E-05
Eu-149	6.40E-10	2.37E-06
Eu-150	1.34E-07	4.96E-04
Eu-150m	2.44E-10	9.03E-07
Eu-152	9.93E-08	3.67E-04
Eu-152m	2.58E-10	9.55E-07
Eu-152n	1.01E-11	3.74E-08
Eu-154	1.15E-07	4.26E-04
Eu-154m	4.76E-12	1.76E-08
Eu-155	1.38E-08	5.11E-05
Eu-156	4.41E-09	1.63E-05
Eu-157	3.80E-10	1.41E-06
Eu-158	5.84E-11	2.16E-07
Eu-159	2.85E-11	1.05E-07
Gd-145	2.11E-11	7.81E-08
Gd-146	7.79E-09	2.88E-05

Nuclide	Inhalation Dose Coefficient (Sv/Bq)	Inhalation Dose Coefficient (mrem/pCi)
Gd-147	5.20E-10	1.92E-06
Gd-148	2.68E-05	9.92E-02
Gd-149	1.05E-09	3.89E-06
Gd-150	2.56E-05	9.47E-02
Gd-151	1.31E-09	4.85E-06
Gd-152	2.01E-05	7.44E-02
Gd-153	2.65E-09	9.81E-06
Gd-159	3.51E-10	1.30E-06
Tb-147	8.82E-11	3.26E-07
Tb-148	8.28E-11	3.06E-07
Tb-149	4.87E-09	1.80E-05
Tb-150	1.29E-10	4.77E-07
Tb-151	2.96E-10	1.10E-06
Tb-152	3.82E-10	1.41E-06
Tb-153	2.72E-10	1.01E-06
Tb-154	4.30E-10	1.59E-06
Tb-155	3.50E-10	1.30E-06
Tb-156	1.44E-09	5.33E-06
Tb-156m	2.33E-10	8.62E-07
Tb-156n	1.28E-10	4.74E-07
Tb-157	3.42E-09	1.27E-05
Tb-158	1.10E-07	4.07E-04
Tb-160	9.17E-09	3.39E-05
Tb-161	1.59E-09	5.88E-06
Tb-163	2.03E-11	7.51E-08
Dy-151	1.51E-10	5.59E-07
Dy-152	7.46E-11	2.76E-07
Dy-153	1.51E-10	5.59E-07
Dy-154	2.74E-05	1.01E-01
Dy-155	1.09E-10	4.03E-07
Dy-157	3.77E-11	1.39E-07
Dy-159	5.38E-10	1.99E-06
Dy-165	7.52E-11	2.78E-07
Dy-166	2.40E-09	8.88E-06
Ho-154	1.82E-11	6.73E-08
Ho-155	2.87E-11	1.06E-07
Ho-156	6.56E-11	2.43E-07

Nuclide	Inhalation Dose Coefficient (Sv/Bq)	Inhalation Dose Coefficient (mrem/pCi)
Ho-157	5.87E-12	2.17E-08
Ho-159	7.95E-12	2.94E-08
Ho-160	1.63E-11	6.03E-08
Ho-161	8.98E-12	3.32E-08
Ho-162	3.43E-12	1.27E-08
Ho-162m	2.51E-11	9.29E-08
Ho-163	2.82E-10	1.04E-06
Ho-164	1.02E-11	3.77E-08
Ho-164m	1.39E-11	5.14E-08
Ho-166	8.42E-10	3.12E-06
Ho-166m	2.96E-07	1.10E-03
Ho-167	9.12E-11	3.37E-07
Er-156	2.38E-11	8.81E-08
Er-159	2.07E-11	7.66E-08
Er-161	6.43E-11	2.38E-07
Er-163	1.56E-12	5.77E-09
Er-165	1.04E-11	3.85E-08
Er-169	1.28E-09	4.74E-06
Er-171	2.70E-10	9.99E-07
Er-172	1.39E-09	5.14E-06
Tm-161	3.06E-11	1.13E-07
Tm-162	2.40E-11	8.88E-08
Tm-163	4.53E-11	1.68E-07
Tm-165	2.74E-10	1.01E-06
Tm-166	2.18E-10	8.07E-07
Tm-167	1.47E-09	5.44E-06
Tm-168	5.60E-09	2.07E-05
Tm-170	1.01E-08	3.74E-05
Tm-171	2.48E-09	9.18E-06
Tm-172	1.42E-09	5.25E-06
Tm-173	2.25E-10	8.33E-07
Tm-175	2.26E-11	8.36E-08
Yb-162	2.09E-11	7.73E-08
Yb-163	1.02E-11	3.77E-08
Yb-164	5.31E-11	1.96E-07
Yb-166	8.90E-10	3.29E-06
Yb-167	8.09E-12	2.99E-08

Nuclide	Inhalation Dose Coefficient (Sv/Bq)	Inhalation Dose Coefficient (mrem/pCi)
Yb-169	3.76E-09	1.39E-05
Yb-175	8.11E-10	3.00E-06
Yb-177	8.45E-11	3.13E-07
Yb-178	8.63E-11	3.19E-07
Lu-165	1.63E-11	6.03E-08
Lu-167	4.56E-11	1.69E-07
Lu-169	5.16E-10	1.91E-06
Lu-170	7.57E-10	2.80E-06
Lu-171	1.11E-09	4.11E-06
Lu-172	1.80E-09	6.66E-06
Lu-173	5.27E-09	1.95E-05
Lu-174	8.10E-09	3.00E-05
Lu-174m	4.86E-09	1.80E-05
Lu-176	1.61E-07	5.96E-04
Lu-176m	1.32E-10	4.88E-07
Lu-177	1.32E-09	4.88E-06
Lu-177m	1.76E-08	6.51E-05
Lu-178	2.95E-11	1.09E-07
Lu-178m	3.71E-11	1.37E-07
Lu-179	1.32E-10	4.88E-07
Hf-170	3.41E-10	1.26E-06
Hf-172	3.70E-08	1.37E-04
Hf-173	2.03E-10	7.51E-07
Hf-174	3.20E-05	1.18E-01
Hf-175	1.55E-09	5.74E-06
Hf-177m	1.11E-10	4.11E-07
Hf-178m	2.30E-07	8.51E-04
Hf-179m	4.90E-09	1.81E-05
Hf-180m	1.67E-10	6.18E-07
Hf-181	6.52E-09	2.41E-05
Hf-182	3.04E-07	1.12E-03
Hf-182m	6.11E-11	2.26E-07
Hf-183	7.30E-11	2.70E-07
Hf-184	4.08E-10	1.51E-06
Ta-172	4.30E-11	1.59E-07
Ta-173	9.37E-11	3.47E-07
Ta-174	5.71E-11	2.11E-07

Nuclide	Inhalation Dose Coefficient (Sv/Bq)	Inhalation Dose Coefficient (mrem/pCi)
Ta-175	1.79E-10	6.62E-07
Ta-176	2.41E-10	8.92E-07
Ta-177	1.22E-10	4.51E-07
Ta-178m	8.96E-11	3.32E-07
Ta-179	5.46E-10	2.02E-06
Ta-180	5.18E-11	1.92E-07
Ta-182	1.14E-08	4.22E-05
Ta-182m	2.60E-11	9.62E-08
Ta-183	2.50E-09	9.25E-06
Ta-184	5.10E-10	1.89E-06
Ta-185	5.80E-11	2.15E-07
Ta-186	2.14E-11	7.92E-08
W-177	5.22E-11	1.93E-07
W-178	9.29E-10	3.44E-06
W-179	1.62E-12	5.99E-09
W-181	3.25E-10	1.20E-06
W-185	4.24E-09	1.57E-05
W-187	4.83E-10	1.79E-06
W-188	1.72E-08	6.36E-05
W-190	8.54E-11	3.16E-07
Re-178	1.90E-11	7.03E-08
Re-179	1.32E-11	4.88E-08
Re-181	3.14E-10	1.16E-06
Re-182	1.48E-09	5.48E-06
Re-182m	2.56E-10	9.47E-07
Re-183	3.94E-09	1.46E-05
Re-184	2.57E-09	9.51E-06
Re-184m	1.12E-08	4.14E-05
Re-186	1.31E-09	4.85E-06
Re-186m	6.43E-08	2.38E-04
Re-187	4.26E-11	1.58E-07
Re-188	6.68E-10	2.47E-06
Re-188m	1.77E-11	6.55E-08
Re-189	5.06E-10	1.87E-06
Re-190m	2.44E-10	9.03E-07
Os-180	1.77E-11	6.55E-08
Os-181	7.54E-11	2.79E-07

Nuclide	Inhalation Dose Coefficient (Sv/Bq)	Inhalation Dose Coefficient (mrem/pCi)
Os-182	4.69E-10	1.74E-06
Os-183	2.20E-10	8.14E-07
Os-183m	1.74E-10	6.44E-07
Os-185	1.73E-09	6.40E-06
Os-186	4.51E-06	1.67E-02
Os-189m	6.42E-12	2.38E-08
Os-191	2.21E-09	8.18E-06
Os-191m	1.84E-10	6.81E-07
Os-193	6.32E-10	2.34E-06
Os-194	9.09E-08	3.36E-04
Os-196	6.64E-11	2.46E-07
Ir-182	3.07E-11	1.14E-07
Ir-183	4.71E-11	1.74E-07
Ir-184	1.49E-10	5.51E-07
Ir-185	2.76E-10	1.02E-06
Ir-186	4.21E-10	1.56E-06
Ir-186m	5.97E-11	2.21E-07
Ir-187	9.10E-11	3.37E-07
Ir-188	5.71E-10	2.11E-06
Ir-189	6.26E-10	2.32E-06
Ir-190	1.56E-09	5.77E-06
Ir-190m	6.98E-12	2.58E-08
Ir-190n	9.93E-11	3.67E-07
Ir-192	7.30E-09	2.70E-05
Ir-192n	6.12E-08	2.26E-04
Ir-193m	1.35E-09	5.00E-06
Ir-194	6.75E-10	2.50E-06
Ir-194m	1.33E-08	4.92E-05
Ir-195	8.32E-11	3.08E-07
Ir-195m	1.47E-10	5.44E-07
Pt-184	3.06E-11	1.13E-07
Pt-186	8.46E-11	3.13E-07
Pt-187	8.29E-11	3.07E-07
Pt-188	2.28E-09	8.44E-06
Pt-189	2.06E-10	7.62E-07
Pt-190	5.58E-06	2.06E-02
Pt-191	4.21E-10	1.56E-06

Nuclide	Inhalation Dose Coefficient (Sv/Bq)	Inhalation Dose Coefficient (mrem/pCi)
Pt-193	7.27E-10	2.69E-06
Pt-193m	1.08E-09	4.00E-06
Pt-195m	1.29E-09	4.77E-06
Pt-197	4.31E-10	1.59E-06
Pt-197m	9.20E-11	3.40E-07
Pt-199	3.38E-11	1.25E-07
Pt-202	2.61E-09	9.66E-06
Au-186	2.43E-11	8.99E-08
Au-190	2.90E-11	1.07E-07
Au-191	7.56E-11	2.80E-07
Au-192	1.15E-10	4.26E-07
Au-193	1.23E-10	4.55E-07
Au-194	2.79E-10	1.03E-06
Au-195	2.00E-09	7.40E-06
Au-196	3.78E-10	1.40E-06
Au-196m	5.00E-10	1.85E-06
Au-198	9.84E-10	3.64E-06
Au-198m	2.05E-09	7.59E-06
Au-199	8.99E-10	3.33E-06
Au-200	4.14E-11	1.53E-07
Au-200m	7.95E-10	2.94E-06
Au-201	2.03E-11	7.51E-08
Hg-190	8.33E-11	3.08E-07
Hg-191m	3.47E-10	1.28E-06
Hg-192	1.08E-09	4.00E-06
Hg-193	9.44E-10	3.49E-06
Hg-193m	3.25E-09	1.20E-05
Hg-194	4.25E-08	1.57E-04
Hg-195	1.63E-09	6.03E-06
Hg-195m	8.80E-09	3.26E-05
Hg-197	5.06E-09	1.87E-05
Hg-197m	6.38E-09	2.36E-05
Hg-199m	1.91E-10	7.07E-07
Hg-203	7.71E-09	2.85E-05
Tl-194	2.30E-11	8.51E-08
Tl-194m	3.54E-11	1.31E-07
Tl-195	2.98E-11	1.10E-07

Nuclide	Inhalation Dose Coefficient (Sv/Bq)	Inhalation Dose Coefficient (mrem/pCi)
Tl-196	4.70E-11	1.74E-07
Tl-197	4.50E-11	1.67E-07
Tl-198	9.13E-11	3.38E-07
Tl-198m	8.09E-11	2.99E-07
Tl-199	5.81E-11	2.15E-07
Tl-200	2.14E-10	7.92E-07
Tl-201	2.20E-10	8.14E-07
Tl-202	4.59E-10	1.70E-06
Tl-204	2.05E-08	7.59E-05
Pb-194	1.51E-11	5.59E-08
Pb-195m	2.62E-11	9.69E-08
Pb-196	2.88E-11	1.07E-07
Pb-197m	5.27E-11	1.95E-07
Pb-198	7.37E-11	2.73E-07
Pb-199	3.47E-11	1.28E-07
Pb-200	3.77E-10	1.39E-06
Pb-201	1.33E-10	4.92E-07
Pb-202	1.97E-08	7.29E-05
Pb-202m	1.18E-10	4.37E-07
Pb-203	2.39E-10	8.84E-07
Pb-204m	3.44E-11	1.27E-07
Pb-205	2.58E-10	9.55E-07
Pb-209	6.46E-11	2.39E-07
Pb-210	1.21E-06	4.48E-03
Pb-211	1.26E-08	4.66E-05
Pb-212	1.86E-07	6.88E-04
Pb-214	1.47E-08	5.44E-05
Bi-200	4.39E-11	1.62E-07
Bi-201	8.98E-11	3.32E-07
Bi-202	7.53E-11	2.79E-07
Bi-203	3.42E-10	1.27E-06
Bi-204	3.81E-10	1.41E-06
Bi-205	1.23E-09	4.55E-06
Bi-206	2.15E-09	7.96E-06
Bi-207	4.08E-08	1.51E-04
Bi-208	3.83E-08	1.42E-04
Bi-210	1.46E-07	5.40E-04

Nuclide	Inhalation Dose Coefficient (Sv/Bq)	Inhalation Dose Coefficient (mrem/pCi)
Bi-210m	1.07E-05	3.96E-02
Bi-212	3.67E-08	1.36E-04
Bi-213	3.55E-08	1.31E-04
Bi-214	1.72E-08	6.36E-05
Po-203	5.16E-11	1.91E-07
Po-204	4.24E-10	1.57E-06
Po-205	5.21E-11	1.93E-07
Po-206	6.27E-08	2.32E-04
Po-207	1.05E-10	3.89E-07
Po-208	4.16E-06	1.54E-02
Po-209	4.02E-06	1.49E-02
Po-210	3.60E-06	1.33E-02
At-205	7.83E-10	2.90E-06
At-206	2.62E-10	9.69E-07
At-207	2.41E-09	8.92E-06
At-208	6.56E-10	2.43E-06
At-209	3.04E-09	1.12E-05
At-210	1.17E-08	4.33E-05
At-211	1.30E-07	4.81E-04
Fr-212	6.98E-09	2.58E-05
Fr-222	3.08E-08	1.14E-04
Fr-223	1.33E-08	4.92E-05
Ra-223	8.05E-06	2.98E-02
Ra-224	3.22E-06	1.19E-02
Ra-225	6.83E-06	2.53E-02
Ra-226	3.82E-06	1.41E-02
Ra-227	2.87E-10	1.06E-06
Ra-228	3.08E-06	1.14E-02
Ra-230	1.29E-10	4.77E-07
Ac-224	1.24E-07	4.59E-04
Ac-225	9.18E-06	3.40E-02
Ac-226	1.41E-06	5.22E-03
Ac-227	1.61E-04	5.96E-01
Ac-228	1.61E-08	5.96E-05
Th-228	4.35E-05	1.61E-01
Th-229	7.55E-05	2.79E-01
Th-230	1.47E-05	5.44E-02

Nuclide	Inhalation Dose Coefficient (Sv/Bq)	Inhalation Dose Coefficient (mrem/pCi)
Th-232	2.56E-05	9.47E-02
Th-234	8.60E-09	3.18E-05
Pa-227	8.57E-08	3.17E-04
Pa-228	7.78E-08	2.88E-04
Pa-229	7.78E-09	2.88E-05
Pa-230	7.34E-07	2.72E-03
Pa-231	2.37E-04	8.77E-01
Pa-232	2.60E-09	9.62E-06
Pa-233	4.56E-09	1.69E-05
Pa-234	3.98E-10	1.47E-06
Pa-235	1.98E-11	7.33E-08
U-230	1.47E-05	5.44E-02
U-231	5.30E-10	1.96E-06
U-232	8.62E-06	3.19E-02
U-233	3.89E-06	1.44E-02
U-234	3.81E-06	1.41E-02
U-235	3.38E-06	1.25E-02
U-235m	9.01E-16	3.33E-12
U-236	3.49E-06	1.29E-02
U-237	1.84E-09	6.81E-06
U-238	3.14E-06	1.16E-02
U-239	2.62E-11	9.69E-08
U-240	6.17E-10	2.28E-06
U-242	3.21E-11	1.19E-07
Np-232	5.20E-11	1.92E-07
Np-233	2.20E-12	8.14E-09
Np-234	5.09E-10	1.88E-06
Np-235	5.41E-10	2.00E-06
Np-236	4.51E-06	1.67E-02
Np-236m	5.68E-09	2.10E-05
Np-237	2.30E-05	8.51E-02
Np-238	2.24E-09	8.29E-06
Np-239	1.08E-09	4.00E-06
Np-240	8.03E-11	2.97E-07
Np-241	1.40E-11	5.18E-08
Pu-232	2.44E-08	9.03E-05
Pu-234	2.24E-08	8.29E-05

Nuclide	Inhalation Dose Coefficient (Sv/Bq)	Inhalation Dose Coefficient (mrem/pCi)
Pu-235	1.88E-12	6.96E-09
Pu-236	2.05E-05	7.59E-02
Pu-237	3.99E-10	1.48E-06
Pu-238	4.65E-05	1.72E-01
Pu-239	5.04E-05	1.86E-01
Pu-240	5.04E-05	1.86E-01
Pu-241	8.94E-07	3.31E-03
Pu-242	4.79E-05	1.77E-01
Pu-243	9.38E-11	3.47E-07
Pu-244	4.70E-05	1.74E-01
Pu-245	4.74E-10	1.75E-06
Pu-246	4.91E-09	1.82E-05
Am-237	2.88E-11	1.07E-07
Am-238	9.33E-11	3.45E-07
Am-239	2.62E-10	9.69E-07
Am-240	5.10E-10	1.89E-06
Am-241	4.21E-05	1.56E-01
Am-242	1.91E-08	7.07E-05
Am-242m	3.67E-05	1.36E-01
Am-243	4.16E-05	1.54E-01
Am-244	2.10E-09	7.77E-06
Am-244m	8.75E-11	3.24E-07
Am-245	6.12E-11	2.26E-07
Am-246	8.43E-11	3.12E-07
Am-246m	2.67E-11	9.88E-08
Am-247	3.02E-11	1.12E-07
Cm-238	1.95E-09	7.22E-06
Cm-239	7.59E-11	2.81E-07
Cm-240	3.43E-06	1.27E-02
Cm-241	4.00E-08	1.48E-04
Cm-242	5.72E-06	2.12E-02
Cm-243	3.23E-05	1.20E-01
Cm-244	2.73E-05	1.01E-01
Cm-246	4.27E-05	1.58E-01
CM-248	1.50E-04	5.55E-01
Bk-245	2.48E-09	9.18E-06
Bk-246	3.34E-10	1.24E-06

Nuclide	Inhalation Dose Coefficient (Sv/Bq)	Inhalation Dose Coefficient (mrem/pCi)
Bk-247	1.77E-04	6.55E-01
Bk-248m	2.81E-08	1.04E-04
Bk-249	4.40E-07	1.63E-03
Bk-250	2.33E-09	8.62E-06
Bk-251	5.09E-11	1.88E-07
Cf-244	1.50E-08	5.55E-05
Cf-246	4.92E-07	1.82E-03
Cf-247	4.62E-11	1.71E-07
Cf-248	9.79E-06	3.62E-02
Cf-249	7.29E-05	2.70E-01
Cf-250	3.61E-05	1.34E-01
Cf-251	7.41E-05	2.74E-01
Cf-252	2.25E-05	8.33E-02
Cf-253	1.46E-06	5.40E-03
Cf-254	4.68E-05	1.73E-01
Cf-255	6.24E-09	2.31E-05
Es-249	2.49E-10	9.21E-07
Es-250	6.16E-09	2.28E-05
Es-250m	1.59E-09	5.88E-06
Es-251	2.32E-09	8.58E-06
Es-253	3.43E-06	1.27E-02
Es-254	1.23E-05	4.55E-02
Es-254m	5.64E-07	2.09E-03
Es-255	4.95E-06	1.83E-02
Es-256	4.55E-08	1.68E-04
Fm-251	2.16E-09	7.99E-06
Fm-252	4.17E-07	1.54E-03
Fm-253	4.98E-07	1.84E-03
Fm-254	7.44E-08	2.75E-04
Fm-255	3.19E-07	1.18E-03
Fm-256	2.85E-07	1.05E-03
Fm-257	9.15E-06	3.39E-02

APPENDIX C

REFERENCE PERSON

EXTERNAL DOSE COEFFICIENTS

Appendix C tabulates the dose rate coefficients for air immersion, water submersion, and ground shine. These dose coefficients are from the DC_PACK3 toolbox.

Table C-1 Air Immersion and Water Submersion Dose Coefficients

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem-m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μ Ci/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq-s)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem-m ³ /μCi-y)
H-3	12.32	y	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Be-7	53.22	d	2.21E-15	2.58E-04	8.18E+00	4.81E-18	6.41E-11	5.61E-13
Be-10	1.51E+06	y	1.39E-16	1.62E-05	5.14E-01	1.55E-19	2.06E-12	1.81E-14
C-10	19.255	s	7.90E-14	9.22E-03	2.92E+02	1.71E-16	2.28E-09	2.00E-11
C-11	20.39	m	4.56E-14	5.32E-03	1.69E+02	9.90E-17	1.32E-09	1.16E-11
C-14	5.70E+03	y	2.60E-18	3.04E-07	9.62E-03	2.89E-21	3.85E-14	3.37E-16
N-13	9.965	m	4.57E-14	5.34E-03	1.69E+02	9.91E-17	1.32E-09	1.16E-11
N-16	7.13	s	2.59E-13	3.02E-02	9.58E+02	5.63E-16	7.50E-09	6.57E-11
O-14	70.606	s	1.63E-13	1.90E-02	6.03E+02	3.52E-16	4.69E-09	4.11E-11
O-15	122.24	s	4.60E-14	5.37E-03	1.70E+02	9.95E-17	1.33E-09	1.16E-11
O-19	26.464	s	4.60E-14	5.37E-03	1.70E+02	9.83E-17	1.31E-09	1.15E-11
F-17	64.49	s	4.60E-14	5.37E-03	1.70E+02	9.95E-17	1.33E-09	1.16E-11
F-18	109.77	m	4.41E-14	5.15E-03	1.63E+02	9.58E-17	1.28E-09	1.12E-11
Ne-19	17.22	s	4.63E-14	5.41E-03	1.71E+02	9.98E-17	1.33E-09	1.16E-11
Ne-24	3.38	m	2.48E-14	2.90E-03	9.18E+01	5.33E-17	7.10E-10	6.22E-12
Na-22	2.6019	y	1.02E-13	1.19E-02	3.77E+02	2.20E-16	2.93E-09	2.57E-11
Na-24	14.959	h	2.08E-13	2.43E-02	7.70E+02	4.51E-16	6.01E-09	5.26E-11
Mg-27	9.458	m	4.16E-14	4.86E-03	1.54E+02	8.98E-17	1.20E-09	1.05E-11
Mg-28	20.915	h	6.38E-14	7.45E-03	2.36E+02	1.38E-16	1.84E-09	1.61E-11
Al-26	7.17E+05	y	1.28E-13	1.49E-02	4.74E+02	2.78E-16	3.70E-09	3.24E-11
Al-28	2.2414	m	8.88E-14	1.04E-02	3.29E+02	1.91E-16	2.54E-09	2.23E-11

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem- m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μCi/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq- s)	Water Submersion Dose Rate Coefficient (mrem- m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem- m ³ /μCi-y)
Al-29	6.56	m	6.71E-14	7.83E-03	2.48E+02	1.44E-16	1.92E-09	1.68E-11
Si-31	157.3	m	4.83E-16	5.64E-05	1.79E+00	6.14E-19	8.18E-12	7.16E-14
Si-32	132	y	1.05E-17	1.23E-06	3.89E-02	1.14E-20	1.52E-13	1.33E-15
P-30	2.498	m	4.69E-14	5.48E-03	1.74E+02	1.01E-16	1.35E-09	1.18E-11
P-32	14.263	d	5.36E-16	6.26E-05	1.98E+00	6.45E-19	8.59E-12	7.53E-14
P-33	25.34	d	1.44E-17	1.68E-06	5.33E-02	1.57E-20	2.09E-13	1.83E-15
S-35	87.51	d	3.07E-18	3.58E-07	1.14E-02	3.40E-21	4.53E-14	3.97E-16
S-37	5.05	m	1.54E-13	1.80E-02	5.70E+02	3.34E-16	4.45E-09	3.90E-11
S-38	170.3	m	8.47E-14	9.89E-03	3.13E+02	1.83E-16	2.44E-09	2.14E-11
Cl-34	1.5264	s	4.77E-14	5.57E-03	1.76E+02	1.02E-16	1.36E-09	1.19E-11
Cl-34m	32	m	1.03E-13	1.20E-02	3.81E+02	2.24E-16	2.98E-09	2.61E-11
Cl-36	3.01E+05	y	1.66E-16	1.94E-05	6.14E-01	1.94E-19	2.58E-12	2.26E-14
Cl-38	37.24	m	7.36E-14	8.59E-03	2.72E+02	1.58E-16	2.10E-09	1.84E-11
Cl-39	55.6	m	6.97E-14	8.14E-03	2.58E+02	1.50E-16	2.00E-09	1.75E-11
Cl-40	1.35	m	2.09E-13	2.44E-02	7.73E+02	4.53E-16	6.03E-09	5.29E-11
Ar-37	35.04	d	6.12E-19	7.15E-08	2.26E-03	0.00E+00	0.00E+00	0.00E+00
Ar-39	269	y	1.15E-16	1.34E-05	4.26E-01	1.28E-19	1.70E-12	1.49E-14
Ar-41	109.61	m	6.15E-14	7.18E-03	2.28E+02	1.33E-16	1.77E-09	1.55E-11
Ar-42	32.9	y	1.26E-16	1.47E-05	4.66E-01	1.41E-19	1.88E-12	1.65E-14
Ar-43	5.37	m	7.55E-14	8.82E-03	2.79E+02	1.62E-16	2.16E-09	1.89E-11
Ar-44	11.87	m	9.46E-14	1.10E-02	3.50E+02	2.04E-16	2.72E-09	2.38E-11
K-38	7.636	m	1.56E-13	1.82E-02	5.77E+02	3.36E-16	4.48E-09	3.92E-11
K-40	1.25E+09	y	7.94E-15	9.27E-04	2.94E+01	1.68E-17	2.24E-10	1.96E-12

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem-m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μ Ci/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq-s)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-y)
K-42	12.36	h	1.49E-14	1.74E-03	5.51E+01	3.11E-17	4.14E-10	3.63E-12
K-43	22.3	h	4.33E-14	5.06E-03	1.60E+02	9.39E-17	1.25E-09	1.10E-11
K-44	22.13	m	1.19E-13	1.39E-02	4.40E+02	2.57E-16	3.42E-09	3.00E-11
K-45	17.3	m	9.05E-14	1.06E-02	3.35E+02	1.95E-16	2.60E-09	2.28E-11
K-46	105	s	1.47E-13	1.72E-02	5.44E+02	3.17E-16	4.22E-09	3.70E-11
Ca-41	1.02E+05	y	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ca-45	162.67	d	1.52E-17	1.77E-06	5.62E-02	1.66E-20	2.21E-13	1.94E-15
Ca-47	4.536	d	5.02E-14	5.86E-03	1.86E+02	1.08E-16	1.44E-09	1.26E-11
Ca-49	8.718	m	1.67E-13	1.95E-02	6.18E+02	3.61E-16	4.81E-09	4.21E-11
Sc-42m	62	s	1.98E-13	2.31E-02	7.33E+02	4.28E-16	5.70E-09	4.99E-11
Sc-43	3.891	h	4.41E-14	5.15E-03	1.63E+02	9.55E-17	1.27E-09	1.11E-11
Sc-44	3.97	h	9.87E-14	1.15E-02	3.65E+02	2.14E-16	2.85E-09	2.50E-11
Sc-44m	58.61	h	1.22E-14	1.42E-03	4.51E+01	2.66E-17	3.54E-10	3.10E-12
Sc-46	83.79	d	9.37E-14	1.09E-02	3.47E+02	2.03E-16	2.70E-09	2.37E-11
Sc-47	3.3492	d	4.70E-15	5.49E-04	1.74E+01	1.03E-17	1.37E-10	1.20E-12
Sc-48	43.67	h	1.58E-13	1.84E-02	5.85E+02	3.42E-16	4.56E-09	3.99E-11
Sc-49	57.2	m	7.13E-16	8.33E-05	2.64E+00	9.20E-19	1.23E-11	1.07E-13
Sc-50	102.5	s	1.54E-13	1.80E-02	5.70E+02	3.32E-16	4.42E-09	3.87E-11
Ti-44	60	y	4.88E-15	5.70E-04	1.81E+01	1.10E-17	1.47E-10	1.28E-12
Ti-45	184.8	m	3.90E-14	4.55E-03	1.44E+02	8.45E-17	1.13E-09	9.86E-12
Ti-51	5.76	m	1.71E-14	2.00E-03	6.33E+01	3.66E-17	4.88E-10	4.27E-12
Ti-52	1.7	m	5.75E-15	6.71E-04	2.13E+01	1.22E-17	1.63E-10	1.42E-12
V-47	32.6	m	4.50E-14	5.25E-03	1.67E+02	9.72E-17	1.29E-09	1.13E-11

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem- m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μCi/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq- s)	Water Submersion Dose Rate Coefficient (mrem- m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem- m ³ /μCi-y)
V-48	15.9735	d	1.36E-13	1.59E-02	5.03E+02	2.95E-16	3.93E-09	3.44E-11
V-49	330	d	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
V-50	1.50E+17	y	6.87E-14	8.02E-03	2.54E+02	1.49E-16	1.98E-09	1.74E-11
V-52	3.743	m	7.05E-14	8.23E-03	2.61E+02	1.52E-16	2.02E-09	1.77E-11
V-53	1.61	m	4.93E-14	5.76E-03	1.82E+02	1.06E-16	1.41E-09	1.24E-11
Cr-48	21.56	h	1.88E-14	2.20E-03	6.96E+01	4.12E-17	5.49E-10	4.81E-12
Cr-49	42.3	m	4.68E-14	5.46E-03	1.73E+02	1.02E-16	1.36E-09	1.19E-11
Cr-51	27.7025	d	1.40E-15	1.63E-04	5.18E+00	3.05E-18	4.06E-11	3.56E-13
Cr-55	3.497	m	1.00E-15	1.17E-04	3.70E+00	1.30E-18	1.73E-11	1.52E-13
Cr-56	5.94	m	3.47E-15	4.05E-04	1.28E+01	7.36E-18	9.80E-11	8.59E-13
Mn-50m	1.75	m	2.18E-13	2.55E-02	8.07E+02	4.71E-16	6.27E-09	5.50E-11
Mn-51	46.2	m	4.52E-14	5.28E-03	1.67E+02	9.76E-17	1.30E-09	1.14E-11
Mn-52m	21.1	m	1.13E-13	1.32E-02	4.18E+02	2.45E-16	3.26E-09	2.86E-11
Mn-52	5.591	d	1.62E-13	1.89E-02	5.99E+02	3.51E-16	4.68E-09	4.10E-11
Mn-53	3.70E+06	y	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mn-54	312.12	d	3.83E-14	4.47E-03	1.42E+02	8.30E-17	1.11E-09	9.68E-12
Mn-56	2.5789	h	8.17E-14	9.54E-03	3.02E+02	1.76E-16	2.34E-09	2.05E-11
Mn-57	85.4	s	5.30E-15	6.19E-04	1.96E+01	1.07E-17	1.43E-10	1.25E-12
Mn-58m	65.2	s	1.15E-13	1.34E-02	4.26E+02	2.47E-16	3.29E-09	2.88E-11
Fe-52	8.275	h	3.28E-14	3.83E-03	1.21E+02	7.13E-17	9.50E-10	8.32E-12
Fe-53	8.51	m	5.35E-14	6.25E-03	1.98E+02	1.15E-16	1.53E-09	1.34E-11
Fe-53m	2.526	m	1.44E-13	1.68E-02	5.33E+02	3.12E-16	4.16E-09	3.64E-11
Fe-55	2.737	y	6.69E-24	7.81E-13	2.48E-08	1.49E-26	1.98E-19	1.74E-21

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem-m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μ Ci/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq-s)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-y)
Fe-59	44.495	d	5.62E-14	6.56E-03	2.08E+02	1.22E-16	1.63E-09	1.42E-11
Fe-60	1.50E+06	y	6.93E-18	8.09E-07	2.56E-02	7.59E-21	1.01E-13	8.86E-16
Fe-61	5.98	m	6.68E-14	7.80E-03	2.47E+02	1.44E-16	1.92E-09	1.68E-11
Fe-62	68	s	2.32E-14	2.71E-03	8.58E+01	4.98E-17	6.63E-10	5.81E-12
Co-54m	1.48	m	1.85E-13	2.16E-02	6.85E+02	3.99E-16	5.31E-09	4.66E-11
Co-55	17.53	h	9.18E-14	1.07E-02	3.40E+02	1.99E-16	2.65E-09	2.32E-11
Co-56	77.23	d	1.76E-13	2.06E-02	6.51E+02	3.82E-16	5.09E-09	4.46E-11
Co-57	271.74	d	4.98E-15	5.81E-04	1.84E+01	1.11E-17	1.48E-10	1.30E-12
Co-58	70.86	d	4.44E-14	5.18E-03	1.64E+02	9.63E-17	1.28E-09	1.12E-11
Co-58m	9.04	h	6.09E-20	7.11E-09	2.25E-04	1.43E-22	1.90E-15	1.67E-17
Co-60	5.2713	y	1.19E-13	1.39E-02	4.40E+02	2.58E-16	3.44E-09	3.01E-11
Co-60m	10.467	m	1.94E-16	2.27E-05	7.18E-01	4.23E-19	5.63E-12	4.94E-14
Co-61	1.65	h	4.06E-15	4.74E-04	1.50E+01	8.67E-18	1.15E-10	1.01E-12
Co-62	1.5	m	7.92E-14	9.25E-03	2.93E+02	1.70E-16	2.26E-09	1.98E-11
Co-62m	13.91	m	1.30E-13	1.52E-02	4.81E+02	2.81E-16	3.74E-09	3.28E-11
Ni-56	6.075	d	7.82E-14	9.13E-03	2.89E+02	1.70E-16	2.26E-09	1.98E-11
Ni-57	35.6	h	9.19E-14	1.07E-02	3.40E+02	1.99E-16	2.65E-09	2.32E-11
Ni-59	1.01E+05	y	6.92E-19	8.08E-08	2.56E-03	1.50E-21	2.00E-14	1.75E-16
Ni-63	100.1	y	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ni-65	2.51719	h	2.72E-14	3.18E-03	1.01E+02	5.83E-17	7.77E-10	6.80E-12
Ni-66	54.6	h	1.36E-17	1.59E-06	5.03E-02	1.48E-20	1.97E-13	1.73E-15
Cu-57	0.1963	s	5.65E-14	6.60E-03	2.09E+02	1.19E-16	1.59E-09	1.39E-11
Cu-59	81.5	s	6.68E-14	7.80E-03	2.47E+02	1.44E-16	1.92E-09	1.68E-11

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem-m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μ Ci/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq-s)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-y)
Cu-60	23.7	m	1.88E-13	2.20E-02	6.96E+02	4.06E-16	5.41E-09	4.74E-11
Cu-61	3.333	h	3.70E-14	4.32E-03	1.37E+02	8.02E-17	1.07E-09	9.36E-12
Cu-62	9.673	m	4.60E-14	5.37E-03	1.70E+02	9.90E-17	1.32E-09	1.16E-11
Cu-64	12.7	h	8.29E-15	9.68E-04	3.07E+01	1.80E-17	2.40E-10	2.10E-12
Cu-66	5.12	m	5.50E-15	6.42E-04	2.04E+01	1.11E-17	1.48E-10	1.30E-12
Cu-67	61.83	h	4.91E-15	5.73E-04	1.82E+01	1.08E-17	1.44E-10	1.26E-12
Cu-69	2.85	m	2.53E-14	2.95E-03	9.36E+01	5.41E-17	7.21E-10	6.31E-12
Zn-60	2.38	m	6.91E-14	8.07E-03	2.56E+02	1.49E-16	1.98E-09	1.74E-11
Zn-61	89.1	s	7.23E-14	8.44E-03	2.68E+02	1.55E-16	2.06E-09	1.81E-11
Zn-62	9.186	h	1.94E-14	2.27E-03	7.18E+01	4.21E-17	5.61E-10	4.91E-12
Zn-63	38.47	m	4.99E-14	5.83E-03	1.85E+02	1.08E-16	1.44E-09	1.26E-11
Zn-65	244.06	d	2.72E-14	3.18E-03	1.01E+02	5.88E-17	7.83E-10	6.86E-12
Zn-69m	13.76	h	1.84E-14	2.15E-03	6.81E+01	4.01E-17	5.34E-10	4.68E-12
Zn-69	56.4	m	2.00E-16	2.34E-05	7.40E-01	2.28E-19	3.04E-12	2.66E-14
Zn-71m	3.96	h	7.04E-14	8.22E-03	2.60E+02	1.53E-16	2.04E-09	1.79E-11
Zn-71	2.45	m	1.52E-14	1.77E-03	5.62E+01	3.22E-17	4.29E-10	3.76E-12
Zn-72	46.5	h	6.18E-15	7.22E-04	2.29E+01	1.37E-17	1.82E-10	1.60E-12
Ga-64	2.627	m	1.64E-13	1.91E-02	6.07E+02	3.55E-16	4.73E-09	4.14E-11
Ga-65	15.2	m	5.23E-14	6.11E-03	1.94E+02	1.13E-16	1.51E-09	1.32E-11
Ga-66	9.49	h	1.24E-13	1.45E-02	4.59E+02	2.69E-16	3.58E-09	3.14E-11
Ga-67	3.2612	d	6.57E-15	7.67E-04	2.43E+01	1.45E-17	1.93E-10	1.69E-12
Ga-68	67.71	m	4.29E-14	5.01E-03	1.59E+02	9.27E-17	1.23E-09	1.08E-11
Ga-70	21.14	m	8.27E-16	9.66E-05	3.06E+00	1.32E-18	1.76E-11	1.54E-13

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem-m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μ Ci/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq-s)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-y)
Ga-72	14.1	h	1.31E-13	1.53E-02	4.85E+02	2.83E-16	3.77E-09	3.30E-11
Ga-73	4.86	h	1.56E-14	1.82E-03	5.77E+01	3.37E-17	4.49E-10	3.93E-12
Ga-74	8.12	m	1.55E-13	1.81E-02	5.74E+02	3.35E-16	4.46E-09	3.91E-11
Ge-66	2.26	h	2.97E-14	3.47E-03	1.10E+02	6.46E-17	8.60E-10	7.54E-12
Ge-67	18.9	m	6.54E-14	7.64E-03	2.42E+02	1.41E-16	1.88E-09	1.65E-11
Ge-68	270.95	d	8.87E-20	1.04E-08	3.28E-04	2.05E-22	2.73E-15	2.39E-17
Ge-69	39.05	h	4.38E-14	5.11E-03	1.62E+02	9.49E-17	1.26E-09	1.11E-11
Ge-71	11.43	d	9.00E-20	1.05E-08	3.33E-04	2.08E-22	2.77E-15	2.43E-17
Ge-75	82.78	m	1.83E-15	2.14E-04	6.77E+00	3.71E-18	4.94E-11	4.33E-13
Ge-77	11.3	h	4.95E-14	5.78E-03	1.83E+02	1.07E-16	1.43E-09	1.25E-11
Ge-78	88	m	1.23E-14	1.44E-03	4.55E+01	2.68E-17	3.57E-10	3.13E-12
As-68	151.6	s	1.76E-13	2.06E-02	6.51E+02	3.80E-16	5.06E-09	4.43E-11
As-69	15.23	m	5.25E-14	6.13E-03	1.94E+02	1.13E-16	1.51E-09	1.32E-11
As-70	52.6	m	2.00E-13	2.34E-02	7.40E+02	4.32E-16	5.75E-09	5.04E-11
As-71	65.28	h	2.55E-14	2.98E-03	9.44E+01	5.56E-17	7.41E-10	6.49E-12
As-72	26	h	8.21E-14	9.59E-03	3.04E+02	1.77E-16	2.36E-09	2.07E-11
As-73	80.3	d	1.54E-16	1.80E-05	5.70E-01	3.55E-19	4.73E-12	4.14E-14
As-74	17.77	d	3.40E-14	3.97E-03	1.26E+02	7.38E-17	9.83E-10	8.61E-12
As-76	1.0778	d	2.00E-14	2.34E-03	7.40E+01	4.25E-17	5.66E-10	4.96E-12
As-77	38.83	h	4.86E-16	5.67E-05	1.80E+00	9.34E-19	1.24E-11	1.09E-13
As-78	90.7	m	6.27E-14	7.32E-03	2.32E+02	1.35E-16	1.80E-09	1.58E-11
As-79	9.01	m	2.25E-15	2.63E-04	8.33E+00	4.20E-18	5.59E-11	4.90E-13
Se-70	41.1	m	3.14E-14	3.67E-03	1.16E+02	6.83E-17	9.10E-10	7.97E-12

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem-m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μ Ci/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq-s)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-y)
Se-71	4.74	m	7.40E-14	8.64E-03	2.74E+02	1.60E-16	2.13E-09	1.87E-11
Se-72	8.4	d	6.10E-16	7.12E-05	2.26E+00	1.41E-18	1.88E-11	1.65E-13
Se-73	7.15	h	4.81E-14	5.62E-03	1.78E+02	1.05E-16	1.40E-09	1.23E-11
Se-73m	39.8	m	1.18E-14	1.38E-03	4.37E+01	2.55E-17	3.40E-10	2.98E-12
Se-75	119.779	d	1.66E-14	1.94E-03	6.14E+01	3.64E-17	4.85E-10	4.25E-12
Se-77m	17.36	s	3.70E-15	4.32E-04	1.37E+01	8.13E-18	1.08E-10	9.49E-13
Se-79	2.95E+05	y	3.05E-18	3.56E-07	1.13E-02	3.38E-21	4.50E-14	3.94E-16
Se-79m	3.92	m	3.60E-16	4.20E-05	1.33E+00	8.01E-19	1.07E-11	9.35E-14
Se-81	18.45	m	8.16E-16	9.53E-05	3.02E+00	1.33E-18	1.77E-11	1.55E-13
Se-81m	57.28	m	5.54E-16	6.47E-05	2.05E+00	1.23E-18	1.64E-11	1.44E-13
Se-83	22.3	m	1.24E-13	1.45E-02	4.59E+02	2.68E-16	3.57E-09	3.13E-11
Se-83m	70.1	s	4.78E-14	5.58E-03	1.77E+02	1.02E-16	1.36E-09	1.19E-11
Se-84	3.1	m	1.90E-14	2.22E-03	7.03E+01	4.09E-17	5.45E-10	4.77E-12
Br-72	78.6	s	1.41E-13	1.65E-02	5.22E+02	3.03E-16	4.04E-09	3.54E-11
Br-73	3.4	m	6.52E-14	7.61E-03	2.41E+02	1.41E-16	1.88E-09	1.65E-11
Br-74	25.4	m	2.30E-13	2.69E-02	8.51E+02	4.98E-16	6.63E-09	5.81E-11
Br-74m	46	m	2.00E-13	2.34E-02	7.40E+02	4.33E-16	5.77E-09	5.05E-11
Br-75	96.7	m	5.36E-14	6.26E-03	1.98E+02	1.16E-16	1.55E-09	1.35E-11
Br-76	16.2	h	1.34E-13	1.56E-02	4.96E+02	2.91E-16	3.88E-09	3.40E-11
Br-76m	1.31	s	9.66E-16	1.13E-04	3.57E+00	2.19E-18	2.92E-11	2.56E-13

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem- m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μCi/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq- s)	Water Submersion Dose Rate Coefficient (mrem- m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem- m ³ /μCi-y)
Br-77	57.036	h	1.40E-14	1.63E-03	5.18E+01	3.05E-17	4.06E-10	3.56E-12
Br-77m	4.28	m	5.96E-16	6.96E-05	2.21E+00	1.32E-18	1.76E-11	1.54E-13
Br-78	6.46	m	4.69E-14	5.48E-03	1.74E+02	1.01E-16	1.35E-09	1.18E-11
Br-80	17.68	m	3.98E-15	4.65E-04	1.47E+01	8.09E-18	1.08E-10	9.44E-13
Br-80m	4.4205	h	2.38E-16	2.78E-05	8.81E-01	5.56E-19	7.41E-12	6.49E-14
Br-82	35.3	h	1.22E-13	1.42E-02	4.51E+02	2.64E-16	3.52E-09	3.08E-11
Br-82m	6.13	m	1.59E-16	1.86E-05	5.88E-01	3.19E-19	4.25E-12	3.72E-14
Br-83	2.4	h	5.10E-16	5.95E-05	1.89E+00	8.98E-19	1.20E-11	1.05E-13
Br-84	31.8	m	8.88E-14	1.04E-02	3.29E+02	1.92E-16	2.56E-09	2.24E-11
Br-84m	6	m	1.31E-13	1.53E-02	4.85E+02	2.83E-16	3.77E-09	3.30E-11
Br-85	2.9	m	3.98E-15	4.65E-04	1.47E+01	7.81E-18	1.04E-10	9.11E-13
Kr-74	11.5	m	4.70E-14	5.49E-03	1.74E+02	1.02E-16	1.36E-09	1.19E-11
Kr-75	4.29	m	5.85E-14	6.83E-03	2.16E+02	1.26E-16	1.68E-09	1.47E-11
Kr-76	14.8	h	1.83E-14	2.14E-03	6.77E+01	4.00E-17	5.33E-10	4.67E-12
Kr-77	74.4	m	4.63E-14	5.41E-03	1.71E+02	1.00E-16	1.33E-09	1.17E-11
Kr-79	35.04	h	1.11E-14	1.30E-03	4.11E+01	2.42E-17	3.22E-10	2.82E-12
Kr-81	2.29E+05	y	3.82E-17	4.46E-06	1.41E-01	8.39E-20	1.12E-12	9.79E-15
Kr-81m	13.1	s	5.57E-15	6.50E-04	2.06E+01	1.22E-17	1.63E-10	1.42E-12
Kr-83m	1.83	h	1.10E-18	1.28E-07	4.07E-03	2.57E-21	3.42E-14	3.00E-16
Kr-85	10.756	y	2.41E-16	2.81E-05	8.92E-01	3.75E-19	5.00E-12	4.38E-14
Kr-85m	4.48	h	6.85E-15	8.00E-04	2.53E+01	1.49E-17	1.98E-10	1.74E-12
Kr-87	76.3	m	3.97E-14	4.64E-03	1.47E+02	8.51E-17	1.13E-09	9.93E-12
Kr-88	2.84	h	9.71E-14	1.13E-02	3.59E+02	2.10E-16	2.80E-09	2.45E-11

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem-m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μ Ci/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq-s)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-y)
Kr-89	3.15	m	9.56E-14	1.12E-02	3.54E+02	2.06E-16	2.74E-09	2.40E-11
Rb-77	3.77	m	7.09E-14	8.28E-03	2.62E+02	1.53E-16	2.04E-09	1.79E-11
Rb-78	17.66	m	2.04E-13	2.38E-02	7.55E+02	4.41E-16	5.87E-09	5.15E-11
Rb-78m	5.74	m	1.52E-13	1.77E-02	5.62E+02	3.28E-16	4.37E-09	3.83E-11
Rb-79	22.9	m	6.52E-14	7.61E-03	2.41E+02	1.41E-16	1.88E-09	1.65E-11
Rb-80	33.4	s	5.54E-14	6.47E-03	2.05E+02	1.19E-16	1.59E-09	1.39E-11
Rb-81	4.576	h	2.25E-14	2.63E-03	8.33E+01	4.89E-17	6.51E-10	5.71E-12
Rb-81m	30.5	m	1.07E-15	1.25E-04	3.96E+00	2.33E-18	3.10E-11	2.72E-13
Rb-82	1.273	m	5.09E-14	5.94E-03	1.88E+02	1.09E-16	1.45E-09	1.27E-11
Rb-82m	6.472	h	1.34E-13	1.56E-02	4.96E+02	2.91E-16	3.88E-09	3.40E-11
Rb-83	86.2	d	2.16E-14	2.52E-03	7.99E+01	4.69E-17	6.25E-10	5.47E-12
Rb-84	32.77	d	4.13E-14	4.82E-03	1.53E+02	8.95E-17	1.19E-09	1.04E-11
Rb-84m	20.26	m	1.68E-14	1.96E-03	6.22E+01	3.66E-17	4.88E-10	4.27E-12
Rb-86	18.642	d	4.88E-15	5.70E-04	1.81E+01	1.01E-17	1.35E-10	1.18E-12
Rb-86m	1.017	m	2.44E-14	2.85E-03	9.03E+01	5.30E-17	7.06E-10	6.18E-12
Rb-87	4.92E+10	y	3.57E-17	4.17E-06	1.32E-01	3.90E-20	5.19E-13	4.55E-15
Rb-88	17.78	m	3.37E-14	3.93E-03	1.25E+02	7.12E-17	9.48E-10	8.31E-12
Rb-89	15.15	m	1.09E-13	1.27E-02	4.03E+02	2.36E-16	3.14E-09	2.75E-11
Rb-90	158	s	1.08E-13	1.26E-02	4.00E+02	2.33E-16	3.10E-09	2.72E-11
Rb-90m	258	s	1.63E-13	1.90E-02	6.03E+02	3.51E-16	4.68E-09	4.10E-11
Sr-79	2.25	m	5.39E-14	6.29E-03	1.99E+02	1.16E-16	1.55E-09	1.35E-11
Sr-80	106.3	m	1.92E-14	2.24E-03	7.10E+01	4.17E-17	5.55E-10	4.87E-12
Sr-81	22.3	m	6.26E-14	7.31E-03	2.32E+02	1.35E-16	1.80E-09	1.58E-11

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem-m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μ Ci/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq-s)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-y)
Sr-82	25.36	d	4.73E-18	5.52E-07	1.75E-02	1.10E-20	1.47E-13	1.28E-15
Sr-83	32.41	h	3.70E-14	4.32E-03	1.37E+02	8.02E-17	1.07E-09	9.36E-12
Sr-85	64.84	d	2.19E-14	2.56E-03	8.10E+01	4.77E-17	6.35E-10	5.57E-12
Sr-85m	67.63	m	9.42E-15	1.10E-03	3.49E+01	2.07E-17	2.76E-10	2.42E-12
Sr-87m	2.815	h	1.41E-14	1.65E-03	5.22E+01	3.07E-17	4.09E-10	3.58E-12
Sr-89	50.53	d	4.39E-16	5.13E-05	1.62E+00	5.26E-19	7.01E-12	6.14E-14
Sr-90	28.79	y	9.83E-17	1.15E-05	3.64E-01	1.09E-19	1.45E-12	1.27E-14
Sr-91	9.63	h	3.32E-14	3.88E-03	1.23E+02	7.14E-17	9.51E-10	8.33E-12
Sr-92	2.66	h	6.41E-14	7.48E-03	2.37E+02	1.39E-16	1.85E-09	1.62E-11
Sr-93	7.423	m	1.07E-13	1.25E-02	3.96E+02	2.31E-16	3.08E-09	2.70E-11
Sr-94	75.3	s	6.92E-14	8.08E-03	2.56E+02	1.49E-16	1.98E-09	1.74E-11
Y-81	70.4	s	5.35E-14	6.25E-03	1.98E+02	1.15E-16	1.53E-09	1.34E-11
Y-83	7.08	m	6.16E-14	7.19E-03	2.28E+02	1.33E-16	1.77E-09	1.55E-11
Y-83m	2.85	m	3.77E-14	4.40E-03	1.39E+02	8.15E-17	1.09E-09	9.51E-12
Y-84m	39.5	m	1.84E-13	2.15E-02	6.81E+02	3.98E-16	5.30E-09	4.64E-11
Y-85	2.68	h	4.85E-14	5.66E-03	1.79E+02	1.05E-16	1.40E-09	1.23E-11
Y-85m	4.86	h	6.18E-14	7.22E-03	2.29E+02	1.34E-16	1.78E-09	1.56E-11
Y-86	14.74	h	1.68E-13	1.96E-02	6.22E+02	3.64E-16	4.85E-09	4.25E-11
Y-86m	48	m	9.60E-15	1.12E-03	3.55E+01	2.10E-17	2.80E-10	2.45E-12
Y-87	79.8	h	1.94E-14	2.27E-03	7.18E+01	4.23E-17	5.63E-10	4.94E-12
Y-87m	13.37	h	1.35E-14	1.58E-03	5.00E+01	2.94E-17	3.92E-10	3.43E-12
Y-88	106.65	d	1.30E-13	1.52E-02	4.81E+02	2.82E-16	3.76E-09	3.29E-11
Y-89m	15.663	s	4.16E-14	4.86E-03	1.54E+02	9.02E-17	1.20E-09	1.05E-11

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem- m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μCi/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq- s)	Water Submersion Dose Rate Coefficient (mrem- m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem- m ³ /μCi-y)
Y-90	64.1	h	7.91E-16	9.24E-05	2.93E+00	9.86E-19	1.31E-11	1.15E-13
Y-90m	3.19	h	2.80E-14	3.27E-03	1.04E+02	6.10E-17	8.13E-10	7.12E-12
Y-91	58.51	d	6.01E-16	7.02E-05	2.22E+00	8.61E-19	1.15E-11	1.00E-13
Y-91m	49.71	m	2.36E-14	2.76E-03	8.73E+01	5.13E-17	6.83E-10	5.99E-12
Y-92	3.54	h	1.32E-14	1.54E-03	4.88E+01	2.74E-17	3.65E-10	3.20E-12
Y-93	10.18	h	5.63E-15	6.57E-04	2.08E+01	1.13E-17	1.51E-10	1.32E-12
Y-94	18.7	m	3.82E-14	4.46E-03	1.41E+02	8.12E-17	1.08E-09	9.47E-12
Y-95	10.3	m	5.71E-14	6.67E-03	2.11E+02	1.23E-16	1.64E-09	1.44E-11
Zr-85	7.86	m	6.74E-14	7.87E-03	2.49E+02	1.45E-16	1.93E-09	1.69E-11
Zr-86	16.5	h	1.20E-14	1.40E-03	4.44E+01	2.63E-17	3.50E-10	3.07E-12
Zr-87	1.68	h	4.22E-14	4.93E-03	1.56E+02	9.10E-17	1.21E-09	1.06E-11
Zr-88	83.4	d	1.69E-14	1.97E-03	6.25E+01	3.68E-17	4.90E-10	4.29E-12
Zr-89	78.41	h	5.29E-14	6.18E-03	1.96E+02	1.15E-16	1.53E-09	1.34E-11
Zr-89m	4.161	m	2.88E-14	3.36E-03	1.07E+02	6.24E-17	8.31E-10	7.28E-12
Zr-93	1.53E+06	y	6.45E-22	7.53E-11	2.39E-06	6.75E-25	8.99E-18	7.88E-20
Zr-95	64.032	d	3.33E-14	3.89E-03	1.23E+02	7.23E-17	9.63E-10	8.44E-12
Zr-97	16.744	h	4.07E-14	4.75E-03	1.51E+02	8.79E-17	1.17E-09	1.03E-11
Nb-87	3.75	m	5.54E-14	6.47E-03	2.05E+02	1.19E-16	1.59E-09	1.39E-11
Nb-88	14.5	m	1.94E-13	2.27E-02	7.18E+02	4.20E-16	5.59E-09	4.90E-11
Nb-88m	7.78	m	1.91E-13	2.23E-02	7.07E+02	4.13E-16	5.50E-09	4.82E-11
Nb-89	2.03	h	6.51E-14	7.60E-03	2.41E+02	1.40E-16	1.86E-09	1.63E-11
Nb-89m	66	m	5.88E-14	6.87E-03	2.18E+02	1.27E-16	1.69E-09	1.48E-11
Nb-90	14.6	h	2.05E-13	2.39E-02	7.59E+02	4.44E-16	5.91E-09	5.18E-11

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem- m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μCi/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq- s)	Water Submersion Dose Rate Coefficient (mrem- m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem- m ³ /μCi-y)
Nb-91	680	y	8.45E-17	9.87E-06	3.13E-01	1.86E-19	2.48E-12	2.17E-14
Nb-91m	60.86	d	1.20E-15	1.40E-04	4.44E+00	2.59E-18	3.45E-11	3.02E-13
Nb-92	3.47E+07	y	6.83E-14	7.97E-03	2.53E+02	1.48E-16	1.97E-09	1.73E-11
Nb-92m	10.15	d	4.44E-14	5.18E-03	1.64E+02	9.63E-17	1.28E-09	1.12E-11
Nb-93m	16.13	y	3.04E-18	3.55E-07	1.12E-02	7.13E-21	9.50E-14	8.32E-16
Nb-94	2.03E+04	y	7.13E-14	8.33E-03	2.64E+02	1.55E-16	2.06E-09	1.81E-11
Nb-94m	6.263	m	2.15E-16	2.51E-05	7.96E-01	4.67E-19	6.22E-12	5.45E-14
Nb-95	34.991	d	3.49E-14	4.08E-03	1.29E+02	7.56E-17	1.01E-09	8.82E-12
Nb-95m	3.61	d	2.83E-15	3.30E-04	1.05E+01	6.10E-18	8.13E-11	7.12E-13
Nb-96	23.35	h	1.13E-13	1.32E-02	4.18E+02	2.45E-16	3.26E-09	2.86E-11
Nb-97	72.1	m	3.04E-14	3.55E-03	1.12E+02	6.56E-17	8.74E-10	7.65E-12
Nb-98m	51.3	m	1.32E-13	1.54E-02	4.88E+02	2.86E-16	3.81E-09	3.34E-11
Nb-99	15	s	8.32E-15	9.71E-04	3.08E+01	1.72E-17	2.29E-10	2.01E-12
Nb-99m	2.6	m	3.86E-14	4.51E-03	1.43E+02	8.26E-17	1.10E-09	9.64E-12
Mo-89	2.11	m	5.70E-14	6.66E-03	2.11E+02	1.22E-16	1.63E-09	1.42E-11
Mo-90	5.56	h	3.66E-14	4.27E-03	1.35E+02	7.98E-17	1.06E-09	9.31E-12
Mo-91	15.49	m	4.50E-14	5.25E-03	1.67E+02	9.66E-17	1.29E-09	1.13E-11
Mo-91m	64.6	s	6.45E-14	7.53E-03	2.39E+02	1.40E-16	1.86E-09	1.63E-11
Mo-93	4.00E+03	y	1.70E-17	1.98E-06	6.29E-02	3.99E-20	5.31E-13	4.66E-15

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem-m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μ Ci/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq-s)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-y)
Mo-93m	6.85	h	1.09E-13	1.27E-02	4.03E+02	2.36E-16	3.14E-09	2.75E-11
Mo-99	65.94	h	6.92E-15	8.08E-04	2.56E+01	1.48E-17	1.97E-10	1.73E-12
Mo-101	14.61	m	6.97E-14	8.14E-03	2.58E+02	1.51E-16	2.01E-09	1.76E-11
Mo-102	11.3	m	1.02E-15	1.19E-04	3.77E+00	2.01E-18	2.68E-11	2.35E-13
Tc-91	3.14	m	1.20E-13	1.40E-02	4.44E+02	2.60E-16	3.46E-09	3.03E-11
Tc-91m	3.3	m	6.60E-14	7.71E-03	2.44E+02	1.42E-16	1.89E-09	1.66E-11
Tc-92	4.25	m	1.79E-13	2.09E-02	6.62E+02	3.88E-16	5.17E-09	4.53E-11
Tc-93	2.75	h	7.46E-14	8.71E-03	2.76E+02	1.62E-16	2.16E-09	1.89E-11
Tc-93m	43.5	m	4.66E-14	5.44E-03	1.72E+02	1.01E-16	1.35E-09	1.18E-11
Tc-94	293	m	1.21E-13	1.41E-02	4.48E+02	2.63E-16	3.50E-09	3.07E-11
Tc-94m	52	m	9.11E-14	1.06E-02	3.37E+02	1.97E-16	2.62E-09	2.30E-11
Tc-95	20	h	3.59E-14	4.19E-03	1.33E+02	7.78E-17	1.04E-09	9.08E-12
Tc-95m	61	d	3.06E-14	3.57E-03	1.13E+02	6.64E-17	8.84E-10	7.75E-12
Tc-96	4.28	d	1.14E-13	1.33E-02	4.22E+02	2.48E-16	3.30E-09	2.89E-11
Tc-96m	51.5	m	1.94E-15	2.27E-04	7.18E+00	4.21E-18	5.61E-11	4.91E-13
Tc-97	2.60E+06	y	2.21E-17	2.58E-06	8.18E-02	5.20E-20	6.93E-13	6.07E-15
Tc-97m	90.1	d	3.68E-17	4.30E-06	1.36E-01	8.10E-20	1.08E-12	9.45E-15
Tc-98	4.20E+06	y	6.41E-14	7.48E-03	2.37E+02	1.39E-16	1.85E-09	1.62E-11
Tc-99	2.11E+05	y	2.88E-17	3.36E-06	1.07E-01	3.14E-20	4.18E-13	3.66E-15
Tc-99m	6.015	h	5.27E-15	6.15E-04	1.95E+01	1.17E-17	1.56E-10	1.37E-12
Tc-101	14.2	m	1.52E-14	1.77E-03	5.62E+01	3.28E-17	4.37E-10	3.83E-12
Tc-102	5.28	s	5.85E-15	6.83E-04	2.16E+01	1.10E-17	1.47E-10	1.28E-12
Tc-102m	4.35	m	1.18E-13	1.38E-02	4.37E+02	2.56E-16	3.41E-09	2.99E-11

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem- m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μCi/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq- s)	Water Submersion Dose Rate Coefficient (mrem- m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem- m ³ /μCi-y)
Tc-104	18.3	m	1.10E-13	1.28E-02	4.07E+02	2.37E-16	3.16E-09	2.77E-11
Tc-105	7.6	m	3.77E-14	4.40E-03	1.39E+02	8.10E-17	1.08E-09	9.45E-12
Ru-92	3.65	m	9.44E-14	1.10E-02	3.49E+02	2.05E-16	2.73E-09	2.39E-11
Ru-94	51.8	m	2.28E-14	2.66E-03	8.44E+01	4.96E-17	6.61E-10	5.79E-12
Ru-95	1.643	h	5.68E-14	6.63E-03	2.10E+02	1.23E-16	1.64E-09	1.44E-11
Ru-97	2.9	d	9.96E-15	1.16E-03	3.69E+01	2.18E-17	2.90E-10	2.54E-12
Ru-103	39.26	d	2.21E-14	2.58E-03	8.18E+01	4.80E-17	6.39E-10	5.60E-12
Ru-105	4.44	h	3.39E-14	3.96E-03	1.25E+02	7.34E-17	9.78E-10	8.56E-12
Ru-106	373.59	d	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ru-107	3.75	m	1.69E-14	1.97E-03	6.25E+01	3.57E-17	4.76E-10	4.17E-12
Ru-108	4.55	m	2.92E-15	3.41E-04	1.08E+01	6.10E-18	8.13E-11	7.12E-13
Rh-94	70.6	s	1.81E-13	2.11E-02	6.70E+02	3.89E-16	5.18E-09	4.54E-11
Rh-95	5.02	m	1.21E-13	1.41E-02	4.48E+02	2.62E-16	3.49E-09	3.06E-11
Rh-95m	1.96	m	4.29E-14	5.01E-03	1.59E+02	9.31E-17	1.24E-09	1.09E-11
Rh-96	9.9	m	1.81E-13	2.11E-02	6.70E+02	3.93E-16	5.23E-09	4.59E-11
Rh-96m	1.51	m	6.03E-14	7.04E-03	2.23E+02	1.30E-16	1.73E-09	1.52E-11
Rh-97	30.7	m	6.60E-14	7.71E-03	2.44E+02	1.43E-16	1.90E-09	1.67E-11
Rh-97m	46.2	m	1.06E-13	1.24E-02	3.92E+02	2.31E-16	3.08E-09	2.70E-11
Rh-98	8.7	m	8.34E-14	9.74E-03	3.09E+02	1.80E-16	2.40E-09	2.10E-11
Rh-99	16.1	d	2.42E-14	2.83E-03	8.95E+01	5.28E-17	7.03E-10	6.16E-12
Rh-99m	4.7	h	2.89E-14	3.37E-03	1.07E+02	6.28E-17	8.36E-10	7.33E-12
Rh-100	20.8	h	1.32E-13	1.54E-02	4.88E+02	2.85E-16	3.80E-09	3.33E-11
Rh-100m	4.6	m	2.03E-15	2.37E-04	7.51E+00	4.43E-18	5.90E-11	5.17E-13

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem-m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μ Ci/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq-s)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-y)
Rh-101	3.3	y	1.17E-14	1.37E-03	4.33E+01	2.58E-17	3.44E-10	3.01E-12
Rh-101m	4.34	d	1.21E-14	1.41E-03	4.48E+01	2.64E-17	3.52E-10	3.08E-12
Rh-102	207	d	2.24E-14	2.62E-03	8.29E+01	4.86E-17	6.47E-10	5.67E-12
Rh-102m	3.742	y	9.74E-14	1.14E-02	3.60E+02	2.11E-16	2.81E-09	2.46E-11
Rh-103m	56.114	m	5.61E-18	6.55E-07	2.08E-02	1.32E-20	1.76E-13	1.54E-15
Rh-104	42.3	s	1.40E-15	1.63E-04	5.18E+00	2.26E-18	3.01E-11	2.64E-13
Rh-104m	4.34	m	9.14E-16	1.07E-04	3.38E+00	2.09E-18	2.78E-11	2.44E-13
Rh-105	35.36	h	3.47E-15	4.05E-04	1.28E+01	7.49E-18	9.98E-11	8.74E-13
Rh-106	29.8	s	1.07E-14	1.25E-03	3.96E+01	2.20E-17	2.93E-10	2.57E-12
Rh-106m	131	m	1.32E-13	1.54E-02	4.88E+02	2.86E-16	3.81E-09	3.34E-11
Rh-107	21.7	m	1.41E-14	1.65E-03	5.22E+01	3.05E-17	4.06E-10	3.56E-12
Rh-108	16.8	s	1.61E-14	1.88E-03	5.96E+01	3.34E-17	4.45E-10	3.90E-12
Rh-109	80	s	1.38E-14	1.61E-03	5.11E+01	2.95E-17	3.93E-10	3.44E-12
Pd-96	122	s	6.51E-14	7.60E-03	2.41E+02	1.41E-16	1.88E-09	1.65E-11
Pd-97	3.1	m	1.12E-13	1.31E-02	4.14E+02	2.43E-16	3.24E-09	2.84E-11
Pd-98	17.7	m	1.76E-14	2.06E-03	6.51E+01	3.85E-17	5.13E-10	4.49E-12
Pd-99	21.4	m	5.88E-14	6.87E-03	2.18E+02	1.28E-16	1.70E-09	1.49E-11
Pd-100	3.63	d	3.64E-15	4.25E-04	1.35E+01	8.19E-18	1.09E-10	9.56E-13
Pd-101	8.47	h	1.48E-14	1.73E-03	5.48E+01	3.22E-17	4.29E-10	3.76E-12
Pd-103	16.991	d	5.29E-17	6.18E-06	1.96E-01	1.24E-19	1.65E-12	1.45E-14
Pd-107	6.50E+06	y	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Pd-109	13.7012	h	4.20E-16	4.90E-05	1.55E+00	6.88E-19	9.16E-12	8.03E-14
Pd-109m	4.69	m	4.59E-15	5.36E-04	1.70E+01	1.01E-17	1.35E-10	1.18E-12

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem-m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μ Ci/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq-s)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-y)
Pd-111	23.4	m	2.89E-15	3.37E-04	1.07E+01	5.62E-18	7.49E-11	6.56E-13
Pd-112	21.03	h	2.68E-17	3.13E-06	9.92E-02	4.33E-20	5.77E-13	5.05E-15
Pd-114	2.42	m	1.49E-15	1.74E-04	5.51E+00	2.89E-18	3.85E-11	3.37E-13
Ag-99	124	s	1.08E-13	1.26E-02	4.00E+02	2.33E-16	3.10E-09	2.72E-11
Ag-100m	2.24	m	1.33E-13	1.55E-02	4.92E+02	2.87E-16	3.82E-09	3.35E-11
Ag-101	11.1	m	7.19E-14	8.40E-03	2.66E+02	1.56E-16	2.08E-09	1.82E-11
Ag-102	12.9	m	1.60E-13	1.87E-02	5.92E+02	3.47E-16	4.62E-09	4.05E-11
Ag-102m	7.7	m	9.72E-14	1.13E-02	3.60E+02	2.10E-16	2.80E-09	2.45E-11
Ag-103	65.7	m	3.79E-14	4.43E-03	1.40E+02	8.23E-17	1.10E-09	9.60E-12
Ag-104	69.2	m	1.24E-13	1.45E-02	4.59E+02	2.70E-16	3.60E-09	3.15E-11
Ag-104m	33.5	m	8.45E-14	9.87E-03	3.13E+02	1.83E-16	2.44E-09	2.14E-11
Ag-105	41.29	d	2.21E-14	2.58E-03	8.18E+01	4.81E-17	6.41E-10	5.61E-12
Ag-105m	7.23	m	4.42E-17	5.16E-06	1.64E-01	9.63E-20	1.28E-12	1.12E-14
Ag-106	23.96	m	3.13E-14	3.65E-03	1.16E+02	6.77E-17	9.02E-10	7.90E-12
Ag-106m	8.28	d	1.29E-13	1.51E-02	4.77E+02	2.79E-16	3.72E-09	3.26E-11
Ag-108	2.37	m	1.27E-15	1.48E-04	4.70E+00	2.32E-18	3.09E-11	2.71E-13
Ag-108m	418	y	7.23E-14	8.44E-03	2.68E+02	1.57E-16	2.09E-09	1.83E-11
Ag-109m	39.6	s	1.58E-16	1.84E-05	5.85E-01	3.56E-19	4.74E-12	4.15E-14
Ag-110	24.6	s	2.46E-15	2.87E-04	9.10E+00	4.38E-18	5.83E-11	5.11E-13
Ag-110m	249.76	d	1.28E-13	1.49E-02	4.74E+02	2.77E-16	3.69E-09	3.23E-11
Ag-111	7.45	d	1.39E-15	1.62E-04	5.14E+00	2.80E-18	3.73E-11	3.27E-13
Ag-111m	64.8	s	1.68E-16	1.96E-05	6.22E-01	3.71E-19	4.94E-12	4.33E-14
Ag-112	3.13	h	3.39E-14	3.96E-03	1.25E+02	7.24E-17	9.64E-10	8.45E-12

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem-m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μ Ci/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq-s)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-y)
Ag-113	5.37	h	3.83E-15	4.47E-04	1.42E+01	7.75E-18	1.03E-10	9.04E-13
Ag-113m	68.7	s	9.55E-15	1.12E-03	3.53E+01	2.07E-17	2.76E-10	2.42E-12
Ag-114	4.6	s	1.46E-14	1.70E-03	5.40E+01	2.97E-17	3.96E-10	3.47E-12
Ag-115	20	m	2.40E-14	2.80E-03	8.88E+01	5.12E-17	6.82E-10	5.97E-12
Ag-116	2.68	m	1.07E-13	1.25E-02	3.96E+02	2.29E-16	3.05E-09	2.67E-11
Ag-117	73.6	s	6.50E-14	7.59E-03	2.41E+02	1.40E-16	1.86E-09	1.63E-11
Cd-101	1.36	m	1.17E-13	1.37E-02	4.33E+02	2.53E-16	3.37E-09	2.95E-11
Cd-102	5.5	m	3.73E-14	4.36E-03	1.38E+02	8.10E-17	1.08E-09	9.45E-12
Cd-103	7.3	m	1.00E-13	1.17E-02	3.70E+02	2.17E-16	2.89E-09	2.53E-11
Cd-104	57.7	m	1.01E-14	1.18E-03	3.74E+01	2.21E-17	2.94E-10	2.58E-12
Cd-105	55.5	m	6.13E-14	7.16E-03	2.27E+02	1.33E-16	1.77E-09	1.55E-11
Cd-107	6.5	h	4.90E-16	5.72E-05	1.81E+00	1.09E-18	1.45E-11	1.27E-13
Cd-109	461.4	d	2.27E-16	2.65E-05	8.40E-01	5.20E-19	6.93E-12	6.07E-14
Cd-111m	48.5	m	1.20E-14	1.40E-03	4.44E+01	2.64E-17	3.52E-10	3.08E-12
Cd-113	7.70E+15	y	2.49E-17	2.91E-06	9.21E-02	2.72E-20	3.62E-13	3.17E-15
Cd-113m	14.1	y	9.28E-17	1.08E-05	3.43E-01	1.06E-19	1.41E-12	1.24E-14
Cd-115	53.46	h	8.73E-15	1.02E-03	3.23E+01	1.88E-17	2.50E-10	2.19E-12
Cd-115m	44.6	d	1.99E-15	2.32E-04	7.36E+00	3.87E-18	5.15E-11	4.52E-13
Cd-117	2.49	h	5.11E-14	5.97E-03	1.89E+02	1.10E-16	1.47E-09	1.28E-11

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem- m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μCi/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq- s)	Water Submersion Dose Rate Coefficient (mrem- m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem- m ³ /μCi-y)
Cd-117m	3.36	h	9.88E-14	1.15E-02	3.66E+02	2.14E-16	2.85E-09	2.50E-11
Cd-118	50.3	m	7.25E-17	8.47E-06	2.68E-01	8.02E-20	1.07E-12	9.36E-15
Cd-119	2.69	m	7.96E-14	9.29E-03	2.95E+02	1.72E-16	2.29E-09	2.01E-11
Cd-119m	2.2	m	1.11E-13	1.30E-02	4.11E+02	2.41E-16	3.21E-09	2.81E-11
In-103	60	s	1.30E-13	1.52E-02	4.81E+02	2.82E-16	3.76E-09	3.29E-11
In-105	5.07	m	8.97E-14	1.05E-02	3.32E+02	1.94E-16	2.58E-09	2.26E-11
In-106m	5.2	m	1.35E-13	1.58E-02	5.00E+02	2.92E-16	3.89E-09	3.41E-11
In-106	6.2	m	1.63E-13	1.90E-02	6.03E+02	3.53E-16	4.70E-09	4.12E-11
In-107	32.4	m	7.18E-14	8.38E-03	2.66E+02	1.56E-16	2.08E-09	1.82E-11
In-108m	39.6	m	1.35E-13	1.58E-02	5.00E+02	2.92E-16	3.89E-09	3.41E-11
In-108	58	m	1.81E-13	2.11E-02	6.70E+02	3.93E-16	5.23E-09	4.59E-11
In-109m	1.34	m	2.74E-14	3.20E-03	1.01E+02	5.95E-17	7.93E-10	6.94E-12
In-109	4.2	h	2.86E-14	3.34E-03	1.06E+02	6.23E-17	8.30E-10	7.27E-12
In-110m	69.1	m	7.26E-14	8.48E-03	2.69E+02	1.57E-16	2.09E-09	1.83E-11
In-110	4.9	h	1.41E-13	1.65E-02	5.22E+02	3.06E-16	4.08E-09	3.57E-11
In-111m	7.7	m	2.10E-14	2.45E-03	7.77E+01	4.55E-17	6.06E-10	5.31E-12
In-111	2.8047	d	1.69E-14	1.97E-03	6.25E+01	3.70E-17	4.93E-10	4.32E-12
In-112m	20.56	m	9.86E-16	1.15E-04	3.65E+00	2.15E-18	2.86E-11	2.51E-13
In-112	14.97	m	1.19E-14	1.39E-03	4.40E+01	2.56E-17	3.41E-10	2.99E-12
In-113m	1.6579	h	1.13E-14	1.32E-03	4.18E+01	2.46E-17	3.28E-10	2.87E-12
In-114m	49.51	d	3.26E-15	3.81E-04	1.21E+01	7.07E-18	9.42E-11	8.25E-13
In-114	71.9	s	7.27E-16	8.49E-05	2.69E+00	9.87E-19	1.31E-11	1.15E-13
In-115m	4.486	h	6.94E-15	8.10E-04	2.57E+01	1.50E-17	2.00E-10	1.75E-12

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem-m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μ Ci/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq-s)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-y)
In-115	4.41E+14	y	6.60E-17	7.71E-06	2.44E-01	7.29E-20	9.71E-13	8.51E-15
In-116m	54.41	m	1.18E-13	1.38E-02	4.37E+02	2.55E-16	3.40E-09	2.98E-11
In-117m	116.2	m	4.08E-15	4.76E-04	1.51E+01	8.63E-18	1.15E-10	1.01E-12
In-117	43.2	m	3.08E-14	3.60E-03	1.14E+02	6.69E-17	8.91E-10	7.81E-12
In-118m	4.364	m	1.31E-13	1.53E-02	4.85E+02	2.83E-16	3.77E-09	3.30E-11
In-118	5	s	5.72E-15	6.68E-04	2.12E+01	1.08E-17	1.44E-10	1.26E-12
In-119m	18	m	3.89E-15	4.54E-04	1.44E+01	7.63E-18	1.02E-10	8.90E-13
In-119	2.4	m	3.54E-14	4.13E-03	1.31E+02	7.63E-17	1.02E-09	8.90E-12
In-121m	3.88	m	3.92E-15	4.58E-04	1.45E+01	7.29E-18	9.71E-11	8.51E-13
In-121	23.1	s	4.36E-14	5.09E-03	1.61E+02	9.37E-17	1.25E-09	1.09E-11
Sn-106	1.92	m	5.40E-14	6.31E-03	2.00E+02	1.17E-16	1.56E-09	1.37E-11
Sn-108	10.3	m	2.96E-14	3.46E-03	1.10E+02	6.45E-17	8.59E-10	7.53E-12
Sn-109	18	m	1.05E-13	1.23E-02	3.89E+02	2.28E-16	3.04E-09	2.66E-11
Sn-110	4.11	h	1.21E-14	1.41E-03	4.48E+01	2.65E-17	3.53E-10	3.09E-12
Sn-111	35.3	m	2.21E-14	2.58E-03	8.18E+01	4.79E-17	6.38E-10	5.59E-12
Sn-113m	21.4	m	1.02E-16	1.19E-05	3.77E-01	2.38E-19	3.17E-12	2.78E-14
Sn-113	115.09	d	3.45E-16	4.03E-05	1.28E+00	7.73E-19	1.03E-11	9.02E-14
Sn-117m	13.76	d	6.13E-15	7.16E-04	2.27E+01	1.35E-17	1.80E-10	1.58E-12
Sn-119m	293.1	d	9.23E-17	1.08E-05	3.42E-01	2.17E-19	2.89E-12	2.53E-14
Sn-121m	43.9	y	5.31E-17	6.20E-06	1.96E-01	1.12E-19	1.49E-12	1.31E-14
Sn-121	27.03	h	3.98E-17	4.65E-06	1.47E-01	4.36E-20	5.81E-13	5.09E-15
Sn-123m	40.06	m	6.21E-15	7.25E-04	2.30E+01	1.34E-17	1.78E-10	1.56E-12
Sn-123	129.2	d	7.01E-16	8.19E-05	2.59E+00	1.15E-18	1.53E-11	1.34E-13

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem- m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μCi/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq- s)	Water Submersion Dose Rate Coefficient (mrem- m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem- m ³ /μCi-y)
Sn-125m	9.52	m	1.60E-14	1.87E-03	5.92E+01	3.42E-17	4.56E-10	3.99E-12
Sn-125	9.64	d	1.64E-14	1.91E-03	6.07E+01	3.49E-17	4.65E-10	4.07E-12
Sn-126	2.30E+05	y	1.82E-15	2.13E-04	6.73E+00	4.09E-18	5.45E-11	4.77E-13
Sn-127m	4.13	m	2.67E-14	3.12E-03	9.88E+01	5.72E-17	7.62E-10	6.67E-12
Sn-127	2.1	h	9.02E-14	1.05E-02	3.34E+02	1.95E-16	2.60E-09	2.28E-11
Sn-128	59.07	m	2.52E-14	2.94E-03	9.32E+01	5.49E-17	7.31E-10	6.41E-12
Sn-129	2.23	m	4.76E-14	5.56E-03	1.76E+02	1.02E-16	1.36E-09	1.19E-11
Sn-130m	1.7	m	4.20E-14	4.90E-03	1.55E+02	8.99E-17	1.20E-09	1.05E-11
Sn-130	3.72	m	4.16E-14	4.86E-03	1.54E+02	9.04E-17	1.20E-09	1.05E-11
Sb-111	75	s	6.76E-14	7.89E-03	2.50E+02	1.46E-16	1.94E-09	1.70E-11
Sb-113	6.67	m	5.71E-14	6.67E-03	2.11E+02	1.24E-16	1.65E-09	1.45E-11
Sb-114	3.49	m	1.27E-13	1.48E-02	4.70E+02	2.74E-16	3.65E-09	3.20E-11
Sb-115	32.1	m	3.94E-14	4.60E-03	1.46E+02	8.55E-17	1.14E-09	9.98E-12
Sb-116	15.8	m	1.08E-13	1.26E-02	4.00E+02	2.33E-16	3.10E-09	2.72E-11
Sb-116m	60.3	m	1.43E-13	1.67E-02	5.29E+02	3.11E-16	4.14E-09	3.63E-11
Sb-117	2.8	h	7.23E-15	8.44E-04	2.68E+01	1.59E-17	2.12E-10	1.86E-12
Sb-118	3.6	m	3.65E-14	4.26E-03	1.35E+02	7.86E-17	1.05E-09	9.17E-12
Sb-118m	5	h	1.21E-13	1.41E-02	4.48E+02	2.61E-16	3.48E-09	3.05E-11
Sb-119	38.19	h	1.51E-16	1.76E-05	5.59E-01	3.55E-19	4.73E-12	4.14E-14
Sb-120	15.89	m	2.00E-14	2.34E-03	7.40E+01	4.32E-17	5.75E-10	5.04E-12
Sb-120m	5.76	d	1.13E-13	1.32E-02	4.18E+02	2.46E-16	3.28E-09	2.87E-11
Sb-122	2.7238	d	2.04E-14	2.38E-03	7.55E+01	4.39E-17	5.85E-10	5.12E-12
Sb-122m	4.191	m	1.77E-15	2.07E-04	6.55E+00	4.04E-18	5.38E-11	4.71E-13

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem-m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μ Ci/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq-s)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-y)
Sb-124	60.2	d	8.80E-14	1.03E-02	3.26E+02	1.90E-16	2.53E-09	2.22E-11
Sb-124m	93	s	1.98E-14	2.31E-03	7.33E+01	4.30E-17	5.73E-10	5.02E-12
Sb-124n	20.2	m	5.63E-21	6.57E-10	2.08E-05	1.32E-23	1.76E-16	1.54E-18
Sb-125	2.75856	y	1.90E-14	2.22E-03	7.03E+01	4.12E-17	5.49E-10	4.81E-12
Sb-126	12.35	d	1.25E-13	1.46E-02	4.63E+02	2.71E-16	3.61E-09	3.16E-11
Sb-126m	19.15	m	7.02E-14	8.20E-03	2.60E+02	1.52E-16	2.02E-09	1.77E-11
Sb-127	3.85	d	3.14E-14	3.67E-03	1.16E+02	6.80E-17	9.06E-10	7.93E-12
Sb-128	9.01	h	1.41E-13	1.65E-02	5.22E+02	3.05E-16	4.06E-09	3.56E-11
Sb-128m	10.4	m	8.73E-14	1.02E-02	3.23E+02	1.89E-16	2.52E-09	2.21E-11
Sb-129	4.4	h	6.83E-14	7.97E-03	2.53E+02	1.48E-16	1.97E-09	1.73E-11
Sb-130	39.5	m	1.51E-13	1.76E-02	5.59E+02	3.26E-16	4.34E-09	3.80E-11
Sb-130m	6.3	m	1.26E-13	1.47E-02	4.66E+02	2.72E-16	3.62E-09	3.17E-11
Sb-131	23.03	m	9.85E-14	1.15E-02	3.64E+02	2.13E-16	2.84E-09	2.49E-11
Sb-133	2.5	m	1.33E-13	1.55E-02	4.92E+02	2.87E-16	3.82E-09	3.35E-11
Te-113	1.7	m	1.05E-13	1.23E-02	3.89E+02	2.27E-16	3.02E-09	2.65E-11
Te-114	15.2	m	5.92E-14	6.91E-03	2.19E+02	1.28E-16	1.70E-09	1.49E-11
Te-115	5.8	m	1.05E-13	1.23E-02	3.89E+02	2.26E-16	3.01E-09	2.64E-11
Te-115m	6.7	m	1.22E-13	1.42E-02	4.51E+02	2.65E-16	3.53E-09	3.09E-11
Te-116	2.49	h	3.66E-15	4.27E-04	1.35E+01	8.08E-18	1.08E-10	9.43E-13
Te-117	62	m	7.25E-14	8.47E-03	2.68E+02	1.57E-16	2.09E-09	1.83E-11
Te-118	6	d	1.51E-16	1.76E-05	5.59E-01	3.56E-19	4.74E-12	4.15E-14
Te-119	16.05	h	3.43E-14	4.00E-03	1.27E+02	7.44E-17	9.91E-10	8.68E-12
Te-119m	4.7	d	6.97E-14	8.14E-03	2.58E+02	1.51E-16	2.01E-09	1.76E-11

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem- m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μCi/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq- s)	Water Submersion Dose Rate Coefficient (mrem- m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem- m ³ /μCi-y)
Te-121	19.16	d	2.51E-14	2.93E-03	9.29E+01	5.45E-17	7.26E-10	6.36E-12
Te-121m	154	d	9.02E-15	1.05E-03	3.34E+01	1.98E-17	2.64E-10	2.31E-12
Te-123	6.00E+14	y	2.63E-19	3.07E-08	9.73E-04	6.19E-22	8.25E-15	7.22E-17
Te-123m	119.25	d	5.81E-15	6.78E-04	2.15E+01	1.28E-17	1.70E-10	1.49E-12
Te-125m	57.4	d	3.36E-16	3.92E-05	1.24E+00	7.78E-19	1.04E-11	9.08E-14
Te-127	9.35	h	3.35E-16	3.91E-05	1.24E+00	6.02E-19	8.02E-12	7.02E-14
Te-127m	109	d	1.12E-16	1.31E-05	4.14E-01	2.55E-19	3.40E-12	2.98E-14
Te-129	69.6	m	2.99E-15	3.49E-04	1.11E+01	6.13E-18	8.17E-11	7.15E-13
Te-129m	33.6	d	1.57E-15	1.83E-04	5.81E+00	3.26E-18	4.34E-11	3.80E-13
Te-131	25	m	1.92E-14	2.24E-03	7.10E+01	4.14E-17	5.51E-10	4.83E-12
Te-131m	30	h	6.69E-14	7.81E-03	2.48E+02	1.45E-16	1.93E-09	1.69E-11
Te-132	3.204	d	9.35E-15	1.09E-03	3.46E+01	2.05E-17	2.73E-10	2.39E-12
Te-133	12.5	m	5.67E-14	6.62E-03	2.10E+02	1.23E-16	1.64E-09	1.44E-11
Te-133m	55.4	m	8.64E-14	1.01E-02	3.20E+02	1.87E-16	2.49E-09	2.18E-11
Te-134	41.8	m	3.87E-14	4.52E-03	1.43E+02	8.42E-17	1.12E-09	9.82E-12
I-118	13.7	m	9.38E-14	1.10E-02	3.47E+02	2.02E-16	2.69E-09	2.36E-11
I-118m	8.5	m	1.71E-13	2.00E-02	6.33E+02	3.71E-16	4.94E-09	4.33E-11
I-119	19.1	m	4.06E-14	4.74E-03	1.50E+02	8.79E-17	1.17E-09	1.03E-11
I-120	81.6	m	1.28E-13	1.49E-02	4.74E+02	2.76E-16	3.68E-09	3.22E-11

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem-m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μ Ci/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq-s)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-y)
I-120m	53	m	1.63E-13	1.90E-02	6.03E+02	3.53E-16	4.70E-09	4.12E-11
I-121	2.12	h	1.69E-14	1.97E-03	6.25E+01	3.70E-17	4.93E-10	4.32E-12
I-122	3.63	m	4.39E-14	5.13E-03	1.62E+02	9.45E-17	1.26E-09	1.10E-11
I-123	13.27	h	6.55E-15	7.65E-04	2.42E+01	1.45E-17	1.93E-10	1.69E-12
I-124	4.176	d	5.11E-14	5.97E-03	1.89E+02	1.11E-16	1.48E-09	1.30E-11
I-125	59.4	d	3.78E-16	4.41E-05	1.40E+00	8.88E-19	1.18E-11	1.04E-13
I-126	12.93	d	1.92E-14	2.24E-03	7.10E+01	4.17E-17	5.55E-10	4.87E-12
I-128	24.99	m	3.55E-15	4.15E-04	1.31E+01	7.16E-18	9.54E-11	8.35E-13
I-129	1.57E+07	y	2.86E-16	3.34E-05	1.06E+00	6.68E-19	8.90E-12	7.79E-14
I-130	12.36	h	9.68E-14	1.13E-02	3.58E+02	2.10E-16	2.80E-09	2.45E-11
I-130m	8.84	m	4.88E-15	5.70E-04	1.81E+01	1.05E-17	1.40E-10	1.23E-12
I-131	8.0207	d	1.70E-14	1.98E-03	6.29E+01	3.69E-17	4.92E-10	4.31E-12
I-132	2.295	h	1.04E-13	1.21E-02	3.85E+02	2.26E-16	3.01E-09	2.64E-11
I-132m	1.387	h	1.50E-14	1.75E-03	5.55E+01	3.26E-17	4.34E-10	3.80E-12
I-133	20.8	h	2.78E-14	3.25E-03	1.03E+02	6.02E-17	8.02E-10	7.02E-12
I-134	52.5	m	1.21E-13	1.41E-02	4.48E+02	2.61E-16	3.48E-09	3.05E-11
I-134m	3.6	m	1.19E-14	1.39E-03	4.40E+01	2.60E-17	3.46E-10	3.03E-12
I-135	6.57	h	7.57E-14	8.84E-03	2.80E+02	1.64E-16	2.18E-09	1.91E-11
Xe-120	40	m	1.65E-14	1.93E-03	6.11E+01	3.60E-17	4.80E-10	4.20E-12
Xe-121	40.1	m	6.95E-14	8.12E-03	2.57E+02	1.50E-16	2.00E-09	1.75E-11
Xe-122	20.1	h	2.19E-15	2.56E-04	8.10E+00	4.81E-18	6.41E-11	5.61E-13
Xe-123	2.08	h	2.85E-14	3.33E-03	1.05E+02	6.20E-17	8.26E-10	7.23E-12
Xe-125	16.9	h	1.08E-14	1.26E-03	4.00E+01	2.37E-17	3.16E-10	2.77E-12

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem-m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μ Ci/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq-s)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-y)
Xe-127	36.4	d	1.13E-14	1.32E-03	4.18E+01	2.48E-17	3.30E-10	2.89E-12
Xe-127m	69.2	s	6.57E-15	7.67E-04	2.43E+01	1.45E-17	1.93E-10	1.69E-12
Xe-129m	8.88	d	9.18E-16	1.07E-04	3.40E+00	2.01E-18	2.68E-11	2.35E-13
Xe-131m	11.84	d	3.57E-16	4.17E-05	1.32E+00	7.64E-19	1.02E-11	8.91E-14
Xe-133	5.243	d	1.37E-15	1.60E-04	5.07E+00	3.06E-18	4.08E-11	3.57E-13
Xe-133m	2.19	d	1.29E-15	1.51E-04	4.77E+00	2.75E-18	3.66E-11	3.21E-13
Xe-135	9.14	h	1.10E-14	1.28E-03	4.07E+01	2.39E-17	3.18E-10	2.79E-12
Xe-135m	15.29	m	1.89E-14	2.21E-03	6.99E+01	4.09E-17	5.45E-10	4.77E-12
Xe-137	3.818	m	1.04E-14	1.21E-03	3.85E+01	2.12E-17	2.82E-10	2.47E-12
Xe-138	14.08	m	5.47E-14	6.39E-03	2.02E+02	1.18E-16	1.57E-09	1.38E-11
Cs-121	155	s	5.41E-14	6.32E-03	2.00E+02	1.16E-16	1.55E-09	1.35E-11
Cs-121m	122	s	5.38E-14	6.28E-03	1.99E+02	1.16E-16	1.55E-09	1.35E-11
Cs-123	5.88	m	4.89E-14	5.71E-03	1.81E+02	1.06E-16	1.41E-09	1.24E-11
Cs-124	30.8	s	5.43E-14	6.34E-03	2.01E+02	1.16E-16	1.55E-09	1.35E-11
Cs-125	45	m	3.37E-14	3.93E-03	1.25E+02	7.31E-17	9.74E-10	8.53E-12
Cs-126	1.64	m	5.29E-14	6.18E-03	1.96E+02	1.14E-16	1.52E-09	1.33E-11
Cs-127	6.25	h	1.84E-14	2.15E-03	6.81E+01	4.01E-17	5.34E-10	4.68E-12
Cs-128	3.64	m	4.04E-14	4.72E-03	1.49E+02	8.71E-17	1.16E-09	1.02E-11
Cs-129	32.06	h	1.12E-14	1.31E-03	4.14E+01	2.46E-17	3.28E-10	2.87E-12
Cs-130	29.21	m	2.23E-14	2.60E-03	8.25E+01	4.83E-17	6.43E-10	5.64E-12
Cs-130m	3.46	m	2.01E-15	2.35E-04	7.44E+00	4.53E-18	6.03E-11	5.29E-13
Cs-131	9.689	d	2.40E-16	2.80E-05	8.88E-01	5.63E-19	7.50E-12	6.57E-14
Cs-132	6.479	d	3.15E-14	3.68E-03	1.17E+02	6.85E-17	9.12E-10	7.99E-12

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem-m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μ Ci/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq-s)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-y)
Cs-134	2.0648	y	7.07E-14	8.26E-03	2.62E+02	1.53E-16	2.04E-09	1.79E-11
Cs-134m	2.903	h	8.00E-16	9.34E-05	2.96E+00	1.77E-18	2.36E-11	2.07E-13
Cs-135	2.30E+06	y	2.17E-17	2.53E-06	8.03E-02	2.37E-20	3.16E-13	2.77E-15
Cs-135m	53	m	7.31E-14	8.54E-03	2.70E+02	1.59E-16	2.12E-09	1.86E-11
Cs-136	13.16	d	9.81E-14	1.15E-02	3.63E+02	2.13E-16	2.84E-09	2.49E-11
Cs-137	30.1671	y	9.40E-17	1.10E-05	3.48E-01	1.05E-19	1.40E-12	1.23E-14
Cs-138	33.41	m	1.15E-13	1.34E-02	4.26E+02	2.48E-16	3.30E-09	2.89E-11
Cs-138m	2.91	m	1.92E-14	2.24E-03	7.10E+01	4.14E-17	5.51E-10	4.83E-12
Cs-139	9.27	m	1.66E-14	1.94E-03	6.14E+01	3.45E-17	4.60E-10	4.03E-12
Cs-140	63.7	s	8.89E-14	1.04E-02	3.29E+02	1.91E-16	2.54E-09	2.23E-11
Ba-124	11	m	2.51E-14	2.93E-03	9.29E+01	5.46E-17	7.27E-10	6.37E-12
Ba-126	100	m	2.56E-14	2.99E-03	9.47E+01	5.57E-17	7.42E-10	6.50E-12
Ba-127	12.7	m	3.28E-14	3.83E-03	1.21E+02	7.08E-17	9.43E-10	8.26E-12
Ba-128	2.43	d	2.12E-15	2.48E-04	7.84E+00	4.67E-18	6.22E-11	5.45E-13
Ba-129	2.23	h	1.44E-14	1.68E-03	5.33E+01	3.13E-17	4.17E-10	3.65E-12
Ba-129m	2.16	h	7.20E-14	8.41E-03	2.66E+02	1.56E-16	2.08E-09	1.82E-11
Ba-131	11.5	d	2.00E-14	2.34E-03	7.40E+01	4.36E-17	5.81E-10	5.09E-12
Ba-131m	14.6	m	2.65E-15	3.09E-04	9.81E+00	5.93E-18	7.90E-11	6.92E-13
Ba-133	10.52	y	1.62E-14	1.89E-03	5.99E+01	3.56E-17	4.74E-10	4.15E-12
Ba-133m	38.9	h	2.49E-15	2.91E-04	9.21E+00	5.36E-18	7.14E-11	6.25E-13
Ba-135m	28.7	h	2.16E-15	2.52E-04	7.99E+00	4.65E-18	6.19E-11	5.43E-13
Ba-137m	2.552	m	2.69E-14	3.14E-03	9.95E+01	5.83E-17	7.77E-10	6.80E-12
Ba-139	83.06	m	2.67E-15	3.12E-04	9.88E+00	5.17E-18	6.89E-11	6.03E-13

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem-m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μ Ci/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq-s)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem-m ³ /μCi-y)
Ba-140	12.752	d	8.06E-15	9.41E-04	2.98E+01	1.74E-17	2.32E-10	2.03E-12
Ba-141	18.27	m	4.32E-14	5.04E-03	1.60E+02	9.32E-17	1.24E-09	1.09E-11
Ba-142	10.6	m	4.84E-14	5.65E-03	1.79E+02	1.05E-16	1.40E-09	1.23E-11
La-128	5.18	m	1.30E-13	1.52E-02	4.81E+02	2.82E-16	3.76E-09	3.29E-11
La-129	11.6	m	4.11E-14	4.80E-03	1.52E+02	8.90E-17	1.19E-09	1.04E-11
La-130	8.7	m	1.03E-13	1.20E-02	3.81E+02	2.23E-16	2.97E-09	2.60E-11
La-131	59	m	2.88E-14	3.36E-03	1.07E+02	6.26E-17	8.34E-10	7.30E-12
La-132	4.8	h	9.34E-14	1.09E-02	3.46E+02	2.02E-16	2.69E-09	2.36E-11
La-132m	24.3	m	2.95E-14	3.44E-03	1.09E+02	6.42E-17	8.55E-10	7.49E-12
La-133	3.912	h	6.39E-15	7.46E-04	2.36E+01	1.39E-17	1.85E-10	1.62E-12
La-134	6.45	m	3.26E-14	3.81E-03	1.21E+02	7.02E-17	9.35E-10	8.19E-12
La-135	19.5	h	7.73E-16	9.03E-05	2.86E+00	1.73E-18	2.30E-11	2.02E-13
La-136	9.87	m	1.79E-14	2.09E-03	6.62E+01	3.86E-17	5.14E-10	4.50E-12
La-137	6.00E+04	y	3.07E-16	3.58E-05	1.14E+00	7.20E-19	9.59E-12	8.40E-14
La-138	1.02E+11	y	5.82E-14	6.80E-03	2.15E+02	1.26E-16	1.68E-09	1.47E-11
La-140	1.6781	d	1.11E-13	1.30E-02	4.11E+02	2.39E-16	3.18E-09	2.79E-11
La-141	3.92	h	2.14E-15	2.50E-04	7.92E+00	3.86E-18	5.14E-11	4.50E-13
La-142	91.1	m	1.19E-13	1.39E-02	4.40E+02	2.56E-16	3.41E-09	2.99E-11
La-143	14.2	m	1.39E-14	1.62E-03	5.14E+01	2.91E-17	3.88E-10	3.40E-12
Ce-130	22.9	m	2.14E-14	2.50E-03	7.92E+01	4.66E-17	6.21E-10	5.44E-12
Ce-131	10.2	m	7.43E-14	8.68E-03	2.75E+02	1.61E-16	2.14E-09	1.88E-11
Ce-132	3.51	h	1.09E-14	1.27E-03	4.03E+01	2.40E-17	3.20E-10	2.80E-12
Ce-133	97	m	2.28E-14	2.66E-03	8.44E+01	4.96E-17	6.61E-10	5.79E-12

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem-m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μ Ci/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq-s)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem-m ³ /μCi-y)
Ce-133m	4.9	h	7.95E-14	9.28E-03	2.94E+02	1.73E-16	2.30E-09	2.02E-11
Ce-134	3.16	d	4.20E-16	4.90E-05	1.55E+00	9.72E-19	1.29E-11	1.13E-13
Ce-135	17.7	h	3.61E-14	4.22E-03	1.34E+02	7.85E-17	1.05E-09	9.16E-12
Ce-137	9	h	8.48E-16	9.90E-05	3.14E+00	1.90E-18	2.53E-11	2.22E-13
Ce-137m	34.4	h	1.94E-15	2.27E-04	7.18E+00	4.18E-18	5.57E-11	4.88E-13
Ce-139	137.641	d	5.98E-15	6.98E-04	2.21E+01	1.32E-17	1.76E-10	1.54E-12
Ce-141	32.508	d	3.13E-15	3.65E-04	1.16E+01	6.87E-18	9.15E-11	8.02E-13
Ce-143	33.039	h	1.19E-14	1.39E-03	4.40E+01	2.58E-17	3.44E-10	3.01E-12
Ce-144	284.91	d	7.35E-16	8.58E-05	2.72E+00	1.61E-18	2.14E-11	1.88E-13
Ce-145	3.01	m	3.64E-14	4.25E-03	1.35E+02	7.87E-17	1.05E-09	9.18E-12
Pr-134	11	m	1.44E-13	1.68E-02	5.33E+02	3.12E-16	4.16E-09	3.64E-11
Pr-134m	17	m	1.08E-13	1.26E-02	4.00E+02	2.34E-16	3.12E-09	2.73E-11
Pr-135	24	m	3.89E-14	4.54E-03	1.44E+02	8.42E-17	1.12E-09	9.82E-12
Pr-136	13.1	m	9.95E-14	1.16E-02	3.68E+02	2.15E-16	2.86E-09	2.51E-11
Pr-137	1.28	h	1.62E-14	1.89E-03	5.99E+01	3.50E-17	4.66E-10	4.08E-12
Pr-138	1.45	m	3.73E-14	4.36E-03	1.38E+02	8.02E-17	1.07E-09	9.36E-12
Pr-138m	2.12	h	1.13E-13	1.32E-02	4.18E+02	2.45E-16	3.26E-09	2.86E-11
Pr-139	4.41	h	5.10E-15	5.95E-04	1.89E+01	1.11E-17	1.48E-10	1.30E-12
Pr-140	3.39	m	2.44E-14	2.85E-03	9.03E+01	5.27E-17	7.02E-10	6.15E-12

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem-m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μ Ci/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq-s)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-y)
Pr-142	19.12	h	3.49E-15	4.08E-04	1.29E+01	6.94E-18	9.24E-11	8.10E-13
Pr-142m	14.6	m	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Pr-143	13.57	d	1.95E-16	2.28E-05	7.22E-01	2.22E-19	2.96E-12	2.59E-14
Pr-144	17.28	m	2.51E-15	2.93E-04	9.29E+00	4.45E-18	5.93E-11	5.19E-13
Pr-144m	7.2	m	2.52E-16	2.94E-05	9.32E-01	5.76E-19	7.67E-12	6.72E-14
Pr-145	5.984	h	1.37E-15	1.60E-04	5.07E+00	2.46E-18	3.28E-11	2.87E-13
Pr-146	24.15	m	4.92E-14	5.74E-03	1.82E+02	1.06E-16	1.41E-09	1.24E-11
Pr-147	13.4	m	2.18E-14	2.55E-03	8.07E+01	4.69E-17	6.25E-10	5.47E-12
Pr-148	2.29	m	4.83E-14	5.64E-03	1.79E+02	1.03E-16	1.37E-09	1.20E-11
Pr-148m	2.01	m	4.37E-14	5.10E-03	1.62E+02	9.36E-17	1.25E-09	1.09E-11
Nd-134	8.5	m	2.32E-14	2.71E-03	8.58E+01	5.06E-17	6.74E-10	5.90E-12
Nd-135	12.4	m	5.63E-14	6.57E-03	2.08E+02	1.22E-16	1.63E-09	1.42E-11
Nd-136	50.65	m	1.10E-14	1.28E-03	4.07E+01	2.41E-17	3.21E-10	2.81E-12
Nd-137	38.5	m	5.33E-14	6.22E-03	1.97E+02	1.16E-16	1.55E-09	1.35E-11
Nd-138	5.04	h	1.08E-15	1.26E-04	4.00E+00	2.44E-18	3.25E-11	2.85E-13
Nd-139	29.7	m	1.95E-14	2.28E-03	7.22E+01	4.22E-17	5.62E-10	4.92E-12
Nd-139m	5.5	h	7.19E-14	8.40E-03	2.66E+02	1.56E-16	2.08E-09	1.82E-11
Nd-140	3.37	d	4.44E-16	5.18E-05	1.64E+00	1.04E-18	1.39E-11	1.21E-13
Nd-141	2.49	h	2.64E-15	3.08E-04	9.77E+00	5.79E-18	7.71E-11	6.76E-13
Nd-141m	62	s	3.16E-14	3.69E-03	1.17E+02	6.85E-17	9.12E-10	7.99E-12
Nd-144	2.29E+15	y	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nd-147	10.98	d	5.74E-15	6.70E-04	2.12E+01	1.25E-17	1.67E-10	1.46E-12
Nd-149	1.728	h	1.63E-14	1.90E-03	6.03E+01	3.53E-17	4.70E-10	4.12E-12

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem-m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μ Ci/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq-s)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-y)
Nd-151	12.44	m	3.93E-14	4.59E-03	1.45E+02	8.49E-17	1.13E-09	9.91E-12
Nd-152	11.4	m	7.29E-15	8.51E-04	2.70E+01	1.57E-17	2.09E-10	1.83E-12
Pm-136	107	s	1.25E-13	1.46E-02	4.63E+02	2.69E-16	3.58E-09	3.14E-11
Pm-137m	2.4	m	8.01E-14	9.35E-03	2.96E+02	1.74E-16	2.32E-09	2.03E-11
Pm-139	4.15	m	4.29E-14	5.01E-03	1.59E+02	9.24E-17	1.23E-09	1.08E-11
Pm-140	9.2	s	4.93E-14	5.76E-03	1.82E+02	1.05E-16	1.40E-09	1.23E-11
Pm-140m	5.95	m	1.39E-13	1.62E-02	5.14E+02	3.01E-16	4.01E-09	3.51E-11
Pm-141	20.9	m	3.35E-14	3.91E-03	1.24E+02	7.24E-17	9.64E-10	8.45E-12
Pm-142	40.5	s	3.95E-14	4.61E-03	1.46E+02	8.48E-17	1.13E-09	9.89E-12
Pm-143	265	d	1.35E-14	1.58E-03	5.00E+01	2.93E-17	3.90E-10	3.42E-12
Pm-144	363	d	6.95E-14	8.12E-03	2.57E+02	1.51E-16	2.01E-09	1.76E-11
Pm-145	17.7	y	5.50E-16	6.42E-05	2.04E+00	1.28E-18	1.70E-11	1.49E-13
Pm-146	5.53	y	3.33E-14	3.89E-03	1.23E+02	7.23E-17	9.63E-10	8.44E-12
Pm-147	2.6234	y	8.66E-18	1.01E-06	3.20E-02	9.64E-21	1.28E-13	1.12E-15
Pm-148	5.368	d	2.76E-14	3.22E-03	1.02E+02	5.93E-17	7.90E-10	6.92E-12
Pm-148m	41.29	d	8.99E-14	1.05E-02	3.33E+02	1.95E-16	2.60E-09	2.28E-11
Pm-149	53.08	h	7.60E-16	8.87E-05	2.81E+00	1.41E-18	1.88E-11	1.65E-13
Pm-150	2.68	h	6.97E-14	8.14E-03	2.58E+02	1.50E-16	2.00E-09	1.75E-11
Pm-151	28.4	h	1.44E-14	1.68E-03	5.33E+01	3.12E-17	4.16E-10	3.64E-12
Pm-152	4.12	m	1.45E-14	1.69E-03	5.37E+01	3.04E-17	4.05E-10	3.55E-12
Pm-152m	7.52	m	7.07E-14	8.26E-03	2.62E+02	1.53E-16	2.04E-09	1.79E-11
Pm-153	5.25	m	3.40E-15	3.97E-04	1.26E+01	7.02E-18	9.35E-11	8.19E-13
Pm-154	1.73	m	8.73E-14	1.02E-02	3.23E+02	1.88E-16	2.50E-09	2.19E-11

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem-m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μ Ci/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq-s)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-y)
Pm-154m	2.68	m	8.50E-14	9.92E-03	3.15E+02	1.84E-16	2.45E-09	2.15E-11
Sm-139	2.57	m	6.64E-14	7.75E-03	2.46E+02	1.44E-16	1.92E-09	1.68E-11
Sm-140	14.82	m	2.53E-14	2.95E-03	9.36E+01	5.49E-17	7.31E-10	6.41E-12
Sm-141	10.2	m	6.47E-14	7.55E-03	2.39E+02	1.40E-16	1.86E-09	1.63E-11
Sm-141m	22.6	m	8.92E-14	1.04E-02	3.30E+02	1.93E-16	2.57E-09	2.25E-11
Sm-142	72.49	m	4.17E-15	4.87E-04	1.54E+01	9.11E-18	1.21E-10	1.06E-12
Sm-143	8.75	m	2.36E-14	2.76E-03	8.73E+01	5.11E-17	6.81E-10	5.96E-12
Sm-143m	66	s	3.11E-14	3.63E-03	1.15E+02	6.75E-17	8.99E-10	7.88E-12
Sm-145	340	d	1.23E-15	1.44E-04	4.55E+00	2.86E-18	3.81E-11	3.34E-13
Sm-146	1.03E+08	y	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sm-147	1.06E+11	y	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sm-148	7.00E+15	y	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sm-151	90	y	2.65E-20	3.09E-09	9.81E-05	6.20E-23	8.26E-16	7.23E-18
Sm-153	46.5	h	2.12E-15	2.48E-04	7.84E+00	4.65E-18	6.19E-11	5.43E-13
Sm-155	22.3	m	4.43E-15	5.17E-04	1.64E+01	9.44E-18	1.26E-10	1.10E-12
Sm-156	9.4	h	4.73E-15	5.52E-04	1.75E+01	1.04E-17	1.39E-10	1.21E-12
Sm-157	8.03	m	1.91E-14	2.23E-03	7.07E+01	4.09E-17	5.45E-10	4.77E-12
Eu-142	2.34	s	5.78E-14	6.75E-03	2.14E+02	1.23E-16	1.64E-09	1.44E-11
Eu-142m	1.223	m	1.58E-13	1.84E-02	5.85E+02	3.42E-16	4.56E-09	3.99E-11
Eu-143	2.59	m	5.26E-14	6.14E-03	1.95E+02	1.13E-16	1.51E-09	1.32E-11
Eu-144	10.2	s	5.18E-14	6.05E-03	1.92E+02	1.11E-16	1.48E-09	1.30E-11
Eu-145	5.93	d	5.95E-14	6.95E-03	2.20E+02	1.29E-16	1.72E-09	1.51E-11
Eu-146	4.61	d	1.11E-13	1.30E-02	4.11E+02	2.40E-16	3.20E-09	2.80E-11

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem- m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μCi/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq- s)	Water Submersion Dose Rate Coefficient (mrem- m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem- m ³ /μCi-y)
Eu-147	24.1	d	2.03E-14	2.37E-03	7.51E+01	4.42E-17	5.89E-10	5.16E-12
Eu-148	54.5	d	1.01E-13	1.18E-02	3.74E+02	2.19E-16	2.92E-09	2.56E-11
Eu-149	93.1	d	2.03E-15	2.37E-04	7.51E+00	4.53E-18	6.03E-11	5.29E-13
Eu-150	36.9	y	6.92E-14	8.08E-03	2.56E+02	1.51E-16	2.01E-09	1.76E-11
Eu-150m	12.8	h	2.33E-15	2.72E-04	8.62E+00	4.88E-18	6.50E-11	5.69E-13
Eu-152	13.537	y	5.38E-14	6.28E-03	1.99E+02	1.17E-16	1.56E-09	1.37E-11
Eu-152m	9.3116	h	1.37E-14	1.60E-03	5.07E+01	2.94E-17	3.92E-10	3.43E-12
Eu-152n	96	m	2.63E-15	3.07E-04	9.73E+00	5.92E-18	7.89E-11	6.91E-13
Eu-154	8.593	y	5.78E-14	6.75E-03	2.14E+02	1.25E-16	1.67E-09	1.46E-11
Eu-154m	46	m	2.15E-15	2.51E-04	7.96E+00	4.87E-18	6.49E-11	5.68E-13
Eu-155	4.7611	y	2.17E-15	2.53E-04	8.03E+00	4.87E-18	6.49E-11	5.68E-13
Eu-156	15.19	d	5.94E-14	6.94E-03	2.20E+02	1.28E-16	1.70E-09	1.49E-11
Eu-157	15.18	h	1.23E-14	1.44E-03	4.55E+01	2.67E-17	3.56E-10	3.12E-12
Eu-158	45.9	m	6.14E-14	7.17E-03	2.27E+02	1.32E-16	1.76E-09	1.54E-11
Eu-159	18.1	m	1.32E-14	1.54E-03	4.88E+01	2.83E-17	3.77E-10	3.30E-12
Gd-142	70.2	s	4.78E-14	5.58E-03	1.77E+02	1.03E-16	1.37E-09	1.20E-11
Gd-143m	110	s	9.77E-14	1.14E-02	3.61E+02	2.11E-16	2.81E-09	2.46E-11
Gd-144	4.47	m	4.25E-14	4.96E-03	1.57E+02	9.19E-17	1.22E-09	1.07E-11
Gd-145	23	m	1.18E-13	1.38E-02	4.37E+02	2.55E-16	3.40E-09	2.98E-11
Gd-145m	85	s	3.08E-14	3.60E-03	1.14E+02	6.67E-17	8.88E-10	7.78E-12
Gd-146	48.27	d	8.74E-15	1.02E-03	3.23E+01	1.95E-17	2.60E-10	2.28E-12
Gd-147	38.1	h	6.29E-14	7.34E-03	2.33E+02	1.37E-16	1.82E-09	1.60E-11
Gd-148	74.6	y	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem- m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μCi/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq- s)	Water Submersion Dose Rate Coefficient (mrem- m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem- m ³ /μCi-y)
Gd-149	9.28	d	2.24E-14	2.62E-03	8.29E+01	4.89E-17	6.51E-10	5.71E-12
Gd-150	1.79E+06	y	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Gd-151	124	d	2.15E-15	2.51E-04	7.96E+00	4.81E-18	6.41E-11	5.61E-13
Gd-152	1.08E+14	y	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Gd-153	240.4	d	3.11E-15	3.63E-04	1.15E+01	7.05E-18	9.39E-11	8.23E-13
Gd-159	18.479	h	2.35E-15	2.74E-04	8.70E+00	4.95E-18	6.59E-11	5.78E-13
Gd-162	8.4	m	1.86E-14	2.17E-03	6.88E+01	4.02E-17	5.35E-10	4.69E-12
Tb-146	23	s	1.74E-13	2.03E-02	6.44E+02	3.77E-16	5.02E-09	4.40E-11
Tb-147	1.64	h	1.02E-13	1.19E-02	3.77E+02	2.20E-16	2.93E-09	2.57E-11
Tb-147m	1.87	m	9.11E-14	1.06E-02	3.37E+02	1.97E-16	2.62E-09	2.30E-11
Tb-148	60	m	1.11E-13	1.30E-02	4.11E+02	2.40E-16	3.20E-09	2.80E-11
Tb-148m	2.2	m	1.42E-13	1.66E-02	5.25E+02	3.09E-16	4.12E-09	3.61E-11
Tb-149	4.118	h	6.28E-14	7.33E-03	2.32E+02	1.36E-16	1.81E-09	1.59E-11
Tb-149m	4.16	m	6.20E-14	7.24E-03	2.29E+02	1.34E-16	1.78E-09	1.56E-11
Tb-150	3.48	h	1.17E-13	1.37E-02	4.33E+02	2.54E-16	3.38E-09	2.96E-11
Tb-150m	5.8	m	1.12E-13	1.31E-02	4.14E+02	2.44E-16	3.25E-09	2.85E-11
Tb-151	17.609	h	4.34E-14	5.07E-03	1.61E+02	9.47E-17	1.26E-09	1.10E-11
Tb-151m	25	s	3.20E-15	3.74E-04	1.18E+01	6.99E-18	9.31E-11	8.16E-13
Tb-152	17.5	h	6.98E-14	8.15E-03	2.58E+02	1.51E-16	2.01E-09	1.76E-11
Tb-152m	4.2	m	3.28E-14	3.83E-03	1.21E+02	7.16E-17	9.54E-10	8.35E-12
Tb-153	2.34	d	1.35E-14	1.58E-03	5.00E+01	2.97E-17	3.96E-10	3.47E-12
Tb-154	21.5	h	1.11E-13	1.30E-02	4.11E+02	2.40E-16	3.20E-09	2.80E-11
Tb-155	5.32	d	6.30E-15	7.36E-04	2.33E+01	1.40E-17	1.86E-10	1.63E-12

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem-m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μ Ci/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq-s)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem-m ³ /μCi-y)
Tb-156	5.35	d	8.87E-14	1.04E-02	3.28E+02	1.93E-16	2.57E-09	2.25E-11
Tb-156m	24.4	h	9.24E-16	1.08E-04	3.42E+00	2.13E-18	2.84E-11	2.49E-13
Tb-156n	5.3	h	9.97E-17	1.16E-05	3.69E-01	2.25E-19	3.00E-12	2.63E-14
Tb-157	71	y	9.83E-17	1.15E-05	3.64E-01	2.28E-19	3.04E-12	2.66E-14
Tb-158	180	y	3.61E-14	4.22E-03	1.34E+02	7.84E-17	1.04E-09	9.15E-12
Tb-160	72.3	d	5.20E-14	6.07E-03	1.92E+02	1.13E-16	1.51E-09	1.32E-11
Tb-161	6.906	d	9.14E-16	1.07E-04	3.38E+00	2.01E-18	2.68E-11	2.35E-13
Tb-162	7.6	m	5.04E-14	5.88E-03	1.86E+02	1.09E-16	1.45E-09	1.27E-11
Tb-163	19.5	m	3.51E-14	4.10E-03	1.30E+02	7.62E-17	1.01E-09	8.89E-12
Tb-164	3	m	1.14E-13	1.33E-02	4.22E+02	2.47E-16	3.29E-09	2.88E-11
Tb-165	2.11	m	4.04E-14	4.72E-03	1.49E+02	8.67E-17	1.15E-09	1.01E-11
Dy-148	3.3	m	3.15E-14	3.68E-03	1.17E+02	6.85E-17	9.12E-10	7.99E-12
Dy-149	4.2	m	7.52E-14	8.78E-03	2.78E+02	1.63E-16	2.17E-09	1.90E-11
Dy-150	7.17	m	1.18E-14	1.38E-03	4.37E+01	2.57E-17	3.42E-10	3.00E-12
Dy-151	17.9	m	6.28E-14	7.33E-03	2.32E+02	1.36E-16	1.81E-09	1.59E-11
Dy-152	2.38	h	1.18E-14	1.38E-03	4.37E+01	2.59E-17	3.45E-10	3.02E-12
Dy-153	6.4	h	3.82E-14	4.46E-03	1.41E+02	8.34E-17	1.11E-09	9.73E-12
Dy-154	3.00E+06	y	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dy-155	9.9	h	2.96E-14	3.46E-03	1.10E+02	6.45E-17	8.59E-10	7.53E-12
Dy-157	8.14	h	1.44E-14	1.68E-03	5.33E+01	3.15E-17	4.20E-10	3.68E-12
Dy-159	144.4	d	1.00E-15	1.17E-04	3.70E+00	2.32E-18	3.09E-11	2.71E-13
Dy-165	2.334	h	1.39E-15	1.62E-04	5.14E+00	2.73E-18	3.64E-11	3.19E-13
Dy-165m	1.257	m	7.08E-16	8.27E-05	2.62E+00	1.55E-18	2.06E-11	1.81E-13

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem-m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μ Ci/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq-s)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-y)
Dy-166	81.6	h	1.31E-15	1.53E-04	4.85E+00	2.91E-18	3.88E-11	3.40E-13
Dy-167	6.2	m	2.40E-14	2.80E-03	8.88E+01	5.17E-17	6.89E-10	6.03E-12
Dy-168	8.7	m	1.73E-14	2.02E-03	6.40E+01	3.74E-17	4.98E-10	4.36E-12
Ho-150	76.8	s	8.73E-14	1.02E-02	3.23E+02	1.88E-16	2.50E-09	2.19E-11
Ho-153	2.01	m	4.61E-14	5.38E-03	1.71E+02	9.99E-17	1.33E-09	1.17E-11
Ho-153m	9.3	m	4.72E-14	5.51E-03	1.75E+02	1.02E-16	1.36E-09	1.19E-11
Ho-154	11.76	m	8.63E-14	1.01E-02	3.19E+02	1.87E-16	2.49E-09	2.18E-11
Ho-154m	3.1	m	1.09E-13	1.27E-02	4.03E+02	2.37E-16	3.16E-09	2.77E-11
Ho-155	48	m	2.71E-14	3.16E-03	1.00E+02	5.89E-17	7.85E-10	6.87E-12
Ho-156	56	m	9.78E-14	1.14E-02	3.62E+02	2.12E-16	2.82E-09	2.47E-11
Ho-157	12.6	m	2.46E-14	2.87E-03	9.10E+01	5.38E-17	7.17E-10	6.28E-12
Ho-159	33.05	m	1.52E-14	1.77E-03	5.62E+01	3.36E-17	4.48E-10	3.92E-12
Ho-160	25.6	m	7.64E-14	8.92E-03	2.83E+02	1.66E-16	2.21E-09	1.94E-11
Ho-161	2.48	h	1.33E-15	1.55E-04	4.92E+00	3.06E-18	4.08E-11	3.57E-13
Ho-162	15	m	6.54E-15	7.64E-04	2.42E+01	1.43E-17	1.90E-10	1.67E-12
Ho-162m	67	m	2.48E-14	2.90E-03	9.18E+01	5.40E-17	7.19E-10	6.30E-12
Ho-163	4570	y	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ho-164	29	m	8.04E-16	9.39E-05	2.97E+00	1.76E-18	2.34E-11	2.05E-13
Ho-164m	38	m	1.06E-15	1.24E-04	3.92E+00	2.44E-18	3.25E-11	2.85E-13
Ho-166	26.8	h	1.75E-15	2.04E-04	6.48E+00	3.34E-18	4.45E-11	3.90E-13
Ho-166m	1.20E+03	y	7.29E-14	8.51E-03	2.70E+02	1.59E-16	2.12E-09	1.86E-11
Ho-167	3.1	h	1.60E-14	1.87E-03	5.92E+01	3.48E-17	4.64E-10	4.06E-12
Ho-168	2.99	m	4.06E-14	4.74E-03	1.50E+02	8.74E-17	1.16E-09	1.02E-11

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem- m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μCi/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq- s)	Water Submersion Dose Rate Coefficient (mrem- m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem- m ³ /μCi-y)
Ho-168m	132	s	1.50E-16	1.75E-05	5.55E-01	3.46E-19	4.61E-12	4.04E-14
Ho-170	2.76	m	7.83E-14	9.14E-03	2.90E+02	1.69E-16	2.25E-09	1.97E-11
Er-154	3.73	m	2.24E-15	2.62E-04	8.29E+00	5.00E-18	6.66E-11	5.83E-13
Er-156	19.5	m	1.72E-15	2.01E-04	6.36E+00	3.89E-18	5.18E-11	4.54E-13
Er-159	36	m	4.36E-14	5.09E-03	1.61E+02	9.47E-17	1.26E-09	1.10E-11
Er-161	3.21	h	4.46E-14	5.21E-03	1.65E+02	9.70E-17	1.29E-09	1.13E-11
Er-163	75	m	9.82E-16	1.15E-04	3.63E+00	2.26E-18	3.01E-11	2.64E-13
Er-165	10.36	h	9.01E-16	1.05E-04	3.33E+00	2.08E-18	2.77E-11	2.43E-13
Er-167m	2.269	s	4.03E-15	4.71E-04	1.49E+01	8.83E-18	1.18E-10	1.03E-12
Er-169	9.4	d	2.95E-17	3.44E-06	1.09E-01	3.24E-20	4.32E-13	3.78E-15
Er-171	7.516	h	1.61E-14	1.88E-03	5.96E+01	3.50E-17	4.66E-10	4.08E-12
Er-172	49.3	h	2.24E-14	2.62E-03	8.29E+01	4.88E-17	6.50E-10	5.69E-12
Er-173	1.434	m	3.73E-14	4.36E-03	1.38E+02	8.08E-17	1.08E-09	9.43E-12
Tm-161	30.2	m	5.89E-14	6.88E-03	2.18E+02	1.28E-16	1.70E-09	1.49E-11
Tm-162	21.7	m	9.14E-14	1.07E-02	3.38E+02	1.98E-16	2.64E-09	2.31E-11
Tm-163	1.81	h	6.03E-14	7.04E-03	2.23E+02	1.31E-16	1.74E-09	1.53E-11
Tm-164	2	m	3.57E-14	4.17E-03	1.32E+02	7.70E-17	1.03E-09	8.98E-12
Tm-165	30.06	h	2.40E-14	2.80E-03	8.88E+01	5.23E-17	6.97E-10	6.10E-12
Tm-166	7.7	h	9.30E-14	1.09E-02	3.44E+02	2.02E-16	2.69E-09	2.36E-11
Tm-167	9.25	d	5.49E-15	6.41E-04	2.03E+01	1.21E-17	1.61E-10	1.41E-12
Tm-168	93.1	d	5.51E-14	6.43E-03	2.04E+02	1.20E-16	1.60E-09	1.40E-11
Tm-170	128.6	d	3.25E-16	3.79E-05	1.20E+00	5.14E-19	6.85E-12	6.00E-14
Tm-171	1.92	y	1.70E-17	1.98E-06	6.29E-02	3.89E-20	5.18E-13	4.54E-15

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem- m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μCi/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq- s)	Water Submersion Dose Rate Coefficient (mrem- m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem- m ³ /μCi-y)
Tm-172	63.6	h	2.29E-14	2.67E-03	8.47E+01	4.92E-17	6.55E-10	5.74E-12
Tm-173	8.24	h	1.72E-14	2.01E-03	6.36E+01	3.74E-17	4.98E-10	4.36E-12
Tm-174	5.4	m	8.05E-14	9.40E-03	2.98E+02	1.75E-16	2.33E-09	2.04E-11
Tm-175	15.2	m	4.96E-14	5.79E-03	1.84E+02	1.07E-16	1.43E-09	1.25E-11
Tm-176	1.85	m	9.39E-14	1.10E-02	3.47E+02	2.03E-16	2.70E-09	2.37E-11
Yb-162	18.87	m	1.00E-14	1.17E-03	3.70E+01	2.21E-17	2.94E-10	2.58E-12
Yb-163	11.05	m	3.29E-14	3.84E-03	1.22E+02	7.13E-17	9.50E-10	8.32E-12
Yb-164	75.8	m	1.61E-15	1.88E-04	5.96E+00	3.64E-18	4.85E-11	4.25E-13
Yb-165	9.9	m	1.37E-14	1.60E-03	5.07E+01	3.01E-17	4.01E-10	3.51E-12
Yb-166	56.7	h	2.37E-15	2.77E-04	8.77E+00	5.42E-18	7.22E-11	6.32E-13
Yb-167	17.5	m	9.55E-15	1.12E-03	3.53E+01	2.14E-17	2.85E-10	2.50E-12
Yb-169	32.026	d	1.19E-14	1.39E-03	4.40E+01	2.65E-17	3.53E-10	3.09E-12
Yb-175	4.185	d	1.73E-15	2.02E-04	6.40E+00	3.73E-18	4.97E-11	4.35E-13
Yb-177	1.911	h	9.11E-15	1.06E-03	3.37E+01	1.95E-17	2.60E-10	2.28E-12
Yb-178	74	m	1.76E-15	2.06E-04	6.51E+00	3.74E-18	4.98E-11	4.36E-13
Yb-179	8	m	4.40E-14	5.14E-03	1.63E+02	9.52E-17	1.27E-09	1.11E-11
Lu-165	10.74	m	5.02E-14	5.86E-03	1.86E+02	1.09E-16	1.45E-09	1.27E-11
Lu-167	51.5	m	7.94E-14	9.27E-03	2.94E+02	1.72E-16	2.29E-09	2.01E-11
Lu-169	34.06	h	6.07E-14	7.09E-03	2.25E+02	1.32E-16	1.76E-09	1.54E-11
Lu-169m	160	s	2.52E-20	2.94E-09	9.32E-05	5.83E-23	7.77E-16	6.80E-18
Lu-170	2.012	d	1.25E-13	1.46E-02	4.63E+02	2.71E-16	3.61E-09	3.16E-11
Lu-171	8.24	d	2.79E-14	3.26E-03	1.03E+02	6.09E-17	8.11E-10	7.11E-12
Lu-171m	79	s	9.86E-18	1.15E-06	3.65E-02	2.24E-20	2.98E-13	2.61E-15

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem-m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μ Ci/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq-s)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-y)
Lu-172	6.7	d	8.96E-14	1.05E-02	3.32E+02	1.94E-16	2.58E-09	2.26E-11
Lu-172m	3.7	m	3.90E-20	4.55E-09	1.44E-04	9.04E-23	1.20E-15	1.05E-17
Lu-173	1.37	y	6.47E-15	7.55E-04	2.39E+01	1.44E-17	1.92E-10	1.68E-12
Lu-174	3.31	y	4.46E-15	5.21E-04	1.65E+01	9.84E-18	1.31E-10	1.15E-12
Lu-174m	142	d	1.78E-15	2.08E-04	6.59E+00	4.04E-18	5.38E-11	4.71E-13
Lu-176	3.85E+10	y	2.07E-14	2.42E-03	7.66E+01	4.52E-17	6.02E-10	5.27E-12
Lu-176m	3.635	h	7.71E-16	9.00E-05	2.85E+00	1.41E-18	1.88E-11	1.65E-13
Lu-177	6.647	d	1.50E-15	1.75E-04	5.55E+00	3.25E-18	4.33E-11	3.79E-13
Lu-177m	160.4	d	4.23E-14	4.94E-03	1.57E+02	9.29E-17	1.24E-09	1.08E-11
Lu-178	28.4	m	6.44E-15	7.52E-04	2.38E+01	1.34E-17	1.78E-10	1.56E-12
Lu-178m	23.1	m	4.53E-14	5.29E-03	1.68E+02	9.89E-17	1.32E-09	1.15E-11
Lu-179	4.59	h	1.63E-15	1.90E-04	6.03E+00	3.23E-18	4.30E-11	3.77E-13
Lu-180	5.7	m	7.09E-14	8.28E-03	2.62E+02	1.53E-16	2.04E-09	1.79E-11
Lu-181	3.5	m	2.58E-14	3.01E-03	9.55E+01	5.57E-17	7.42E-10	6.50E-12
Hf-167	2.05	m	2.73E-14	3.19E-03	1.01E+02	5.91E-17	7.87E-10	6.90E-12
Hf-169	3.24	m	2.78E-14	3.25E-03	1.03E+02	6.05E-17	8.06E-10	7.06E-12
Hf-170	16.01	h	1.83E-14	2.14E-03	6.77E+01	4.01E-17	5.34E-10	4.68E-12
Hf-172	1.87	y	3.09E-15	3.61E-04	1.14E+01	7.02E-18	9.35E-11	8.19E-13
Hf-173	23.6	h	1.62E-14	1.89E-03	5.99E+01	3.57E-17	4.76E-10	4.17E-12
Hf-174	2.00E+15	y	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hf-175	70	d	1.47E-14	1.72E-03	5.44E+01	3.22E-17	4.29E-10	3.76E-12
Hf-177m	51.4	m	9.84E-14	1.15E-02	3.64E+02	2.15E-16	2.86E-09	2.51E-11
Hf-178m	31	y	9.78E-14	1.14E-02	3.62E+02	2.13E-16	2.84E-09	2.49E-11

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem- m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μCi/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq- s)	Water Submersion Dose Rate Coefficient (mrem- m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem- m ³ /μCi-y)
Hf-179m	25.05	d	3.92E-14	4.58E-03	1.45E+02	8.59E-17	1.14E-09	1.00E-11
Hf-180m	5.5	h	4.27E-14	4.99E-03	1.58E+02	9.33E-17	1.24E-09	1.09E-11
Hf-181	42.39	d	2.32E-14	2.71E-03	8.58E+01	5.05E-17	6.73E-10	5.89E-12
Hf-182	9.00E+06	y	1.04E-14	1.21E-03	3.85E+01	2.27E-17	3.02E-10	2.65E-12
Hf-182m	61.5	m	3.99E-14	4.66E-03	1.48E+02	8.69E-17	1.16E-09	1.01E-11
Hf-183	1.067	h	3.50E-14	4.09E-03	1.30E+02	7.58E-17	1.01E-09	8.84E-12
Hf-184	4.12	h	9.88E-15	1.15E-03	3.66E+01	2.15E-17	2.86E-10	2.51E-12
Ta-170	6.76	m	4.88E-14	5.70E-03	1.81E+02	1.05E-16	1.40E-09	1.23E-11
Ta-172	36.8	m	7.82E-14	9.13E-03	2.89E+02	1.69E-16	2.25E-09	1.97E-11
Ta-173	3.14	h	2.56E-14	2.99E-03	9.47E+01	5.58E-17	7.43E-10	6.51E-12
Ta-174	1.14	h	4.46E-14	5.21E-03	1.65E+02	9.68E-17	1.29E-09	1.13E-11
Ta-175	10.5	h	5.09E-14	5.94E-03	1.88E+02	1.11E-16	1.48E-09	1.30E-11
Ta-176	8.09	h	1.07E-13	1.25E-02	3.96E+02	2.32E-16	3.09E-09	2.71E-11
Ta-177	56.56	h	2.17E-15	2.53E-04	8.03E+00	4.90E-18	6.53E-11	5.72E-13
Ta-178	9.31	m	4.72E-15	5.51E-04	1.75E+01	1.04E-17	1.39E-10	1.21E-12
Ta-178m	2.36	h	4.91E-14	5.73E-03	1.82E+02	1.08E-16	1.44E-09	1.26E-11
Ta-179	1.82	y	6.96E-16	8.13E-05	2.58E+00	1.59E-18	2.12E-11	1.86E-13
Ta-180	8.152	h	1.42E-15	1.66E-04	5.25E+00	3.22E-18	4.29E-11	3.76E-13
Ta-182	114.43	d	5.98E-14	6.98E-03	2.21E+02	1.30E-16	1.73E-09	1.52E-11
Ta-182m	15.84	m	1.05E-14	1.23E-03	3.89E+01	2.31E-17	3.08E-10	2.70E-12

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem- m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μCi/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq- s)	Water Submersion Dose Rate Coefficient (mrem- m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem- m ³ /μCi-y)
Ta-183	5.1	d	1.20E-14	1.40E-03	4.44E+01	2.63E-17	3.50E-10	3.07E-12
Ta-184	8.7	h	7.07E-14	8.26E-03	2.62E+02	1.54E-16	2.05E-09	1.80E-11
Ta-185	49.4	m	6.70E-15	7.82E-04	2.48E+01	1.43E-17	1.90E-10	1.67E-12
Ta-186	10.5	m	6.43E-14	7.51E-03	2.38E+02	1.39E-16	1.85E-09	1.62E-11
W-177	132	m	3.99E-14	4.66E-03	1.48E+02	8.70E-17	1.16E-09	1.02E-11
W-178	21.6	d	4.33E-16	5.06E-05	1.60E+00	9.89E-19	1.32E-11	1.15E-13
W-179	37.05	m	1.45E-15	1.69E-04	5.37E+00	3.32E-18	4.42E-11	3.87E-13
W-179m	6.4	m	1.99E-15	2.32E-04	7.36E+00	4.39E-18	5.85E-11	5.12E-13
W-181	121.2	d	1.15E-15	1.34E-04	4.26E+00	2.63E-18	3.50E-11	3.07E-13
W-185	75.1	d	4.96E-17	5.79E-06	1.84E-01	5.67E-20	7.55E-13	6.62E-15
W-185m	1.597	m	9.33E-16	1.09E-04	3.45E+00	2.05E-18	2.73E-11	2.39E-13
W-187	23.72	h	2.00E-14	2.34E-03	7.40E+01	4.33E-17	5.77E-10	5.05E-12
W-188	69.78	d	1.10E-16	1.28E-05	4.07E-01	2.08E-19	2.77E-12	2.43E-14
W-190	30	m	5.75E-15	6.71E-04	2.13E+01	1.26E-17	1.68E-10	1.47E-12
Re-178	13.2	m	8.17E-14	9.54E-03	3.02E+02	1.77E-16	2.36E-09	2.07E-11
Re-179	19.5	m	4.90E-14	5.72E-03	1.81E+02	1.07E-16	1.43E-09	1.25E-11
Re-180	2.44	m	5.44E-14	6.35E-03	2.01E+02	1.18E-16	1.57E-09	1.38E-11
Re-181	19.9	h	3.52E-14	4.11E-03	1.30E+02	7.66E-17	1.02E-09	8.94E-12
Re-182	64	h	8.10E-14	9.46E-03	3.00E+02	1.76E-16	2.34E-09	2.05E-11
Re-182m	12.7	h	5.59E-14	6.53E-03	2.07E+02	1.22E-16	1.63E-09	1.42E-11
Re-183	70	d	5.53E-15	6.46E-04	2.05E+01	1.24E-17	1.65E-10	1.45E-12
Re-184	38	d	3.99E-14	4.66E-03	1.48E+02	8.68E-17	1.16E-09	1.01E-11
Re-184m	169	d	1.64E-14	1.91E-03	6.07E+01	3.58E-17	4.77E-10	4.18E-12

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem- m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μCi/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq- s)	Water Submersion Dose Rate Coefficient (mrem- m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem- m ³ /μCi-y)
Re-186	3.7183	d	9.95E-16	1.16E-04	3.68E+00	1.99E-18	2.65E-11	2.32E-13
Re-186m	2.00E+05	y	4.26E-16	4.97E-05	1.58E+00	9.72E-19	1.29E-11	1.13E-13
Re-187	4.12E+10	y	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Re-188	17.004	h	3.29E-15	3.84E-04	1.22E+01	6.60E-18	8.79E-11	7.70E-13
Re-188m	18.59	m	2.26E-15	2.64E-04	8.36E+00	5.12E-18	6.82E-11	5.97E-13
Re-189	24.3	h	2.55E-15	2.98E-04	9.44E+00	5.40E-18	7.19E-11	6.30E-13
Re-190	3.1	m	6.04E-14	7.05E-03	2.23E+02	1.31E-16	1.74E-09	1.53E-11
Re-190m	3.2	h	4.13E-14	4.82E-03	1.53E+02	8.96E-17	1.19E-09	1.05E-11
Os-180	21.5	m	4.67E-15	5.45E-04	1.73E+01	1.03E-17	1.37E-10	1.20E-12
Os-181	105	m	6.31E-14	7.37E-03	2.33E+02	1.37E-16	1.82E-09	1.60E-11
Os-182	22.1	h	1.82E-14	2.13E-03	6.73E+01	3.98E-17	5.30E-10	4.64E-12
Os-183	13	h	2.66E-14	3.11E-03	9.84E+01	5.83E-17	7.77E-10	6.80E-12
Os-183m	9.9	h	4.63E-14	5.41E-03	1.71E+02	1.00E-16	1.33E-09	1.17E-11
Os-185	93.6	d	3.06E-14	3.57E-03	1.13E+02	6.65E-17	8.86E-10	7.76E-12
Os-186	2.00E+15	y	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Os-189m	5.8	h	1.03E-19	1.20E-08	3.81E-04	2.38E-22	3.17E-15	2.78E-17
Os-190m	9.9	m	7.04E-14	8.22E-03	2.60E+02	1.53E-16	2.04E-09	1.79E-11
Os-191	15.4	d	2.95E-15	3.44E-04	1.09E+01	6.62E-18	8.82E-11	7.72E-13
Os-191m	13.1	h	1.82E-16	2.13E-05	6.73E-01	4.15E-19	5.53E-12	4.84E-14
Os-193	30.11	h	3.03E-15	3.54E-04	1.12E+01	6.41E-18	8.54E-11	7.48E-13
Os-194	6	y	5.09E-17	5.94E-06	1.88E-01	1.18E-19	1.57E-12	1.38E-14
Os-196	34.9	m	3.64E-15	4.25E-04	1.35E+01	7.73E-18	1.03E-10	9.02E-13
Ir-180	1.5	m	7.24E-14	8.45E-03	2.68E+02	1.56E-16	2.08E-09	1.82E-11

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem- m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μCi/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq- s)	Water Submersion Dose Rate Coefficient (mrem- m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem- m ³ /μCi-y)
Ir-182	15	m	6.42E-14	7.50E-03	2.38E+02	1.39E-16	1.85E-09	1.62E-11
Ir-183	58	m	5.48E-14	6.40E-03	2.03E+02	1.19E-16	1.59E-09	1.39E-11
Ir-184	3.09	h	9.01E-14	1.05E-02	3.33E+02	1.96E-16	2.61E-09	2.29E-11
Ir-185	14.4	h	3.95E-14	4.61E-03	1.46E+02	8.59E-17	1.14E-09	1.00E-11
Ir-186	16.64	h	7.63E-14	8.91E-03	2.82E+02	1.66E-16	2.21E-09	1.94E-11
Ir-186m	1.92	h	5.81E-14	6.78E-03	2.15E+02	1.26E-16	1.68E-09	1.47E-11
Ir-187	10.5	h	1.40E-14	1.63E-03	5.18E+01	3.07E-17	4.09E-10	3.58E-12
Ir-188	41.5	h	1.01E-13	1.18E-02	3.74E+02	2.19E-16	2.92E-09	2.56E-11
Ir-189	13.2	d	2.67E-15	3.12E-04	9.88E+00	5.99E-18	7.98E-11	6.99E-13
Ir-190	11.78	d	6.51E-14	7.60E-03	2.41E+02	1.42E-16	1.89E-09	1.66E-11
Ir-190m	1.12	h	1.14E-19	1.33E-08	4.22E-04	2.65E-22	3.53E-15	3.09E-17
Ir-190n	3.087	h	1.82E-15	2.13E-04	6.73E+00	4.12E-18	5.49E-11	4.81E-13
Ir-191m	4.94	s	2.66E-15	3.11E-04	9.84E+00	5.96E-18	7.94E-11	6.95E-13
Ir-192	73.827	d	3.61E-14	4.22E-03	1.34E+02	7.86E-17	1.05E-09	9.17E-12
Ir-192m	1.45	m	2.68E-18	3.13E-07	9.92E-03	5.92E-21	7.89E-14	6.91E-16
Ir-192n	241	y	6.65E-17	7.76E-06	2.46E-01	9.60E-20	1.28E-12	1.12E-14
Ir-193m	10.53	d	1.04E-17	1.21E-06	3.85E-02	2.32E-20	3.09E-13	2.71E-15
Ir-194	19.28	h	4.77E-15	5.57E-04	1.76E+01	9.74E-18	1.30E-10	1.14E-12
Ir-194m	171	d	1.04E-13	1.21E-02	3.85E+02	2.26E-16	3.01E-09	2.64E-11
Ir-195	2.5	h	2.20E-15	2.57E-04	8.14E+00	4.72E-18	6.29E-11	5.51E-13
Ir-195m	3.8	h	1.63E-14	1.90E-03	6.03E+01	3.56E-17	4.74E-10	4.15E-12
Ir-196	52	s	1.16E-14	1.35E-03	4.29E+01	2.42E-17	3.22E-10	2.82E-12
Ir-196m	1.4	h	1.10E-13	1.28E-02	4.07E+02	2.39E-16	3.18E-09	2.79E-11

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem-m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μ Ci/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq-s)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-y)
Pt-184	17.3	m	3.02E-14	3.53E-03	1.12E+02	6.63E-17	8.83E-10	7.74E-12
Pt-186	2.08	h	2.99E-14	3.49E-03	1.11E+02	6.51E-17	8.67E-10	7.60E-12
Pt-187	2.35	h	2.66E-14	3.11E-03	9.84E+01	5.81E-17	7.74E-10	6.78E-12
Pt-188	10.2	d	8.04E-15	9.39E-04	2.97E+01	1.78E-17	2.37E-10	2.08E-12
Pt-189	10.87	h	2.06E-14	2.41E-03	7.62E+01	4.51E-17	6.01E-10	5.26E-12
Pt-190	6.50E+11	y	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Pt-191	2.802	d	1.18E-14	1.38E-03	4.37E+01	2.60E-17	3.46E-10	3.03E-12
Pt-193	50	y	2.83E-19	3.30E-08	1.05E-03	6.57E-22	8.75E-15	7.67E-17
Pt-193m	4.33	d	3.68E-16	4.30E-05	1.36E+00	8.04E-19	1.07E-11	9.38E-14
Pt-195m	4.02	d	2.45E-15	2.86E-04	9.07E+00	5.52E-18	7.35E-11	6.44E-13
Pt-197	19.8915	h	9.91E-16	1.16E-04	3.67E+00	2.10E-18	2.80E-11	2.45E-13
Pt-197m	95.41	m	3.26E-15	3.81E-04	1.21E+01	7.05E-18	9.39E-11	8.23E-13
Pt-199	30.8	m	9.23E-15	1.08E-03	3.42E+01	1.97E-17	2.62E-10	2.30E-12
Pt-200	12.5	h	2.33E-15	2.72E-04	8.62E+00	5.09E-18	6.78E-11	5.94E-13
Pt-202	44	h	5.03E-16	5.87E-05	1.86E+00	6.05E-19	8.06E-12	7.06E-14
Au-186	10.7	m	6.87E-14	8.02E-03	2.54E+02	1.49E-16	1.98E-09	1.74E-11
Au-187	8.4	m	4.96E-14	5.79E-03	1.84E+02	1.08E-16	1.44E-09	1.26E-11
Au-190	42.8	m	1.16E-13	1.35E-02	4.29E+02	2.51E-16	3.34E-09	2.93E-11
Au-191	3.18	h	2.55E-14	2.98E-03	9.44E+01	5.58E-17	7.43E-10	6.51E-12
Au-192	4.94	h	9.29E-14	1.08E-02	3.44E+02	2.02E-16	2.69E-09	2.36E-11
Au-193	17.65	h	6.41E-15	7.48E-04	2.37E+01	1.42E-17	1.89E-10	1.66E-12
Au-193m	3.9	s	8.37E-15	9.77E-04	3.10E+01	1.83E-17	2.44E-10	2.14E-12
Au-194	38.02	h	4.81E-14	5.62E-03	1.78E+02	1.05E-16	1.40E-09	1.23E-11

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem- m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μCi/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq- s)	Water Submersion Dose Rate Coefficient (mrem- m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem- m ³ /μCi-y)
Au-195	186.098	d	2.70E-15	3.15E-04	9.99E+00	6.10E-18	8.13E-11	7.12E-13
Au-195m	30.5	s	8.52E-15	9.95E-04	3.15E+01	1.87E-17	2.49E-10	2.18E-12
Au-196	6.183	d	2.02E-14	2.36E-03	7.47E+01	4.42E-17	5.89E-10	5.16E-12
Au-196m	9.6	h	9.70E-15	1.13E-03	3.59E+01	2.14E-17	2.85E-10	2.50E-12
Au-198	2.69517	d	1.80E-14	2.10E-03	6.66E+01	3.90E-17	5.19E-10	4.55E-12
Au-198m	2.27	d	2.21E-14	2.58E-03	8.18E+01	4.87E-17	6.49E-10	5.68E-12
Au-199	3.139	d	3.97E-15	4.64E-04	1.47E+01	8.74E-18	1.16E-10	1.02E-12
Au-200	48.4	m	1.33E-14	1.55E-03	4.92E+01	2.84E-17	3.78E-10	3.31E-12
Au-200m	18.7	h	8.84E-14	1.03E-02	3.27E+02	1.92E-16	2.56E-09	2.24E-11
Au-201	26	m	1.79E-15	2.09E-04	6.62E+00	3.62E-18	4.82E-11	4.22E-13
Au-202	28.8	s	8.90E-15	1.04E-03	3.29E+01	1.85E-17	2.46E-10	2.16E-12
Hg-190	20	m	7.74E-15	9.04E-04	2.86E+01	1.72E-17	2.29E-10	2.01E-12
Hg-191m	50.8	m	6.73E-14	7.86E-03	2.49E+02	1.46E-16	1.94E-09	1.70E-11
Hg-192	4.85	h	1.10E-14	1.28E-03	4.07E+01	2.44E-17	3.25E-10	2.85E-12
Hg-193	3.8	h	3.81E-14	4.45E-03	1.41E+02	8.29E-17	1.10E-09	9.67E-12
Hg-193m	11.8	h	4.67E-14	5.45E-03	1.73E+02	1.01E-16	1.35E-09	1.18E-11
Hg-194	440	y	4.49E-19	5.24E-08	1.66E-03	1.04E-21	1.39E-14	1.21E-16
Hg-195	10.53	h	8.23E-15	9.61E-04	3.05E+01	1.81E-17	2.41E-10	2.11E-12
Hg-195m	41.6	h	8.37E-15	9.77E-04	3.10E+01	1.83E-17	2.44E-10	2.14E-12
Hg-197	64.94	h	2.39E-15	2.79E-04	8.84E+00	5.41E-18	7.21E-11	6.31E-13
Hg-197m	23.8	h	3.75E-15	4.38E-04	1.39E+01	8.28E-18	1.10E-10	9.66E-13
Hg-199m	42.66	m	7.53E-15	8.79E-04	2.79E+01	1.65E-17	2.20E-10	1.93E-12
Hg-203	46.612	d	1.04E-14	1.21E-03	3.85E+01	2.27E-17	3.02E-10	2.65E-12

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem- m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μCi/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq- s)	Water Submersion Dose Rate Coefficient (mrem- m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem- m ³ /μCi-y)
Hg-205	5.2	m	6.19E-16	7.23E-05	2.29E+00	9.63E-19	1.28E-11	1.12E-13
Hg-206	8.15	m	5.56E-15	6.49E-04	2.06E+01	1.19E-17	1.59E-10	1.39E-12
Hg-207	2.9	m	1.28E-13	1.49E-02	4.74E+02	2.77E-16	3.69E-09	3.23E-11
Tl-190	2.6	m	5.94E-14	6.94E-03	2.20E+02	1.28E-16	1.70E-09	1.49E-11
Tl-190m	3.7	m	1.11E-13	1.30E-02	4.11E+02	2.41E-16	3.21E-09	2.81E-11
Tl-194	33	m	4.10E-14	4.79E-03	1.52E+02	8.87E-17	1.18E-09	1.03E-11
Tl-194m	32.8	m	1.13E-13	1.32E-02	4.18E+02	2.46E-16	3.28E-09	2.87E-11
Tl-195	1.16	h	5.74E-14	6.70E-03	2.12E+02	1.25E-16	1.67E-09	1.46E-11
Tl-196	1.84	h	8.80E-14	1.03E-02	3.26E+02	1.91E-16	2.54E-09	2.23E-11
Tl-197	2.84	h	2.02E-14	2.36E-03	7.47E+01	4.40E-17	5.86E-10	5.13E-12
Tl-198	5.3	h	9.50E-14	1.11E-02	3.52E+02	2.06E-16	2.74E-09	2.40E-11
Tl-198m	1.87	h	5.36E-14	6.26E-03	1.98E+02	1.17E-16	1.56E-09	1.37E-11
Tl-199	7.42	h	1.03E-14	1.20E-03	3.81E+01	2.27E-17	3.02E-10	2.65E-12
Tl-200	26.1	h	5.98E-14	6.98E-03	2.21E+02	1.30E-16	1.73E-09	1.52E-11
Tl-201	72.912	h	3.26E-15	3.81E-04	1.21E+01	7.32E-18	9.75E-11	8.54E-13
Tl-202	12.23	d	1.99E-14	2.32E-03	7.36E+01	4.36E-17	5.81E-10	5.09E-12
Tl-204	3.78	y	1.75E-16	2.04E-05	6.48E-01	2.44E-19	3.25E-12	2.85E-14
Tl-206	4.2	m	3.97E-16	4.64E-05	1.47E+00	4.75E-19	6.33E-12	5.54E-14
Tl-206m	3.74	m	1.09E-13	1.27E-02	4.03E+02	2.37E-16	3.16E-09	2.77E-11
Tl-207	4.77	m	4.61E-16	5.38E-05	1.71E+00	6.50E-19	8.66E-12	7.58E-14
Tl-208	3.053	m	1.68E-13	1.96E-02	6.22E+02	3.64E-16	4.85E-09	4.25E-11
Tl-209	2.161	m	1.02E-13	1.19E-02	3.77E+02	2.20E-16	2.93E-09	2.57E-11
Tl-210	1.3	m	1.32E-13	1.54E-02	4.88E+02	2.85E-16	3.80E-09	3.33E-11

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem-m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μ Ci/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq-s)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem-m ³ /μCi-y)
Pb-194	12	m	4.94E-14	5.77E-03	1.83E+02	1.07E-16	1.43E-09	1.25E-11
Pb-195m	15	m	7.40E-14	8.64E-03	2.74E+02	1.61E-16	2.14E-09	1.88E-11
Pb-196	37	m	2.10E-14	2.45E-03	7.77E+01	4.60E-17	6.13E-10	5.37E-12
Pb-197	8	m	7.14E-14	8.34E-03	2.64E+02	1.55E-16	2.06E-09	1.81E-11
Pb-197m	43	m	5.22E-14	6.10E-03	1.93E+02	1.14E-16	1.52E-09	1.33E-11
Pb-198	2.4	h	1.86E-14	2.17E-03	6.88E+01	4.07E-17	5.42E-10	4.75E-12
Pb-199	90	m	4.79E-14	5.59E-03	1.77E+02	1.04E-16	1.39E-09	1.21E-11
Pb-200	21.5	h	8.16E-15	9.53E-04	3.02E+01	1.81E-17	2.41E-10	2.11E-12
Pb-201	9.33	h	3.34E-14	3.90E-03	1.24E+02	7.28E-17	9.70E-10	8.49E-12
Pb-201m	61	s	1.63E-14	1.90E-03	6.03E+01	3.54E-17	4.72E-10	4.13E-12
Pb-202	5.25E+04	y	4.85E-19	5.66E-08	1.79E-03	1.12E-21	1.49E-14	1.31E-16
Pb-202m	3.53	h	9.06E-14	1.06E-02	3.35E+02	1.97E-16	2.62E-09	2.30E-11
Pb-203	51.873	h	1.31E-14	1.53E-03	4.85E+01	2.88E-17	3.84E-10	3.36E-12
Pb-204m	67.2	m	9.45E-14	1.10E-02	3.50E+02	2.05E-16	2.73E-09	2.39E-11
Pb-205	1.53E+07	y	4.92E-19	5.74E-08	1.82E-03	1.14E-21	1.52E-14	1.33E-16
Pb-209	3.253	h	1.00E-16	1.17E-05	3.70E-01	1.12E-19	1.49E-12	1.31E-14
Pb-210	22.2	y	4.71E-17	5.50E-06	1.74E-01	1.09E-19	1.45E-12	1.27E-14
Pb-211	36.1	m	3.22E-15	3.76E-04	1.19E+01	6.68E-18	8.90E-11	7.79E-13
Pb-212	10.64	h	6.11E-15	7.13E-04	2.26E+01	1.34E-17	1.78E-10	1.56E-12
Pb-214	26.8	m	1.11E-14	1.30E-03	4.11E+01	2.41E-17	3.21E-10	2.81E-12
Bi-197	9.3	m	7.85E-14	9.17E-03	2.90E+02	1.70E-16	2.26E-09	1.98E-11
Bi-200	36.4	m	1.10E-13	1.28E-02	4.07E+02	2.39E-16	3.18E-09	2.79E-11
Bi-201	108	m	8.11E-14	9.47E-03	3.00E+02	1.76E-16	2.34E-09	2.05E-11

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem- m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μCi/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq- s)	Water Submersion Dose Rate Coefficient (mrem- m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem- m ³ /μCi-y)
Bi-202	1.72	h	1.26E-13	1.47E-02	4.66E+02	2.74E-16	3.65E-09	3.20E-11
Bi-203	11.76	h	1.13E-13	1.32E-02	4.18E+02	2.44E-16	3.25E-09	2.85E-11
Bi-204	11.22	h	1.35E-13	1.58E-02	5.00E+02	2.92E-16	3.89E-09	3.41E-11
Bi-205	15.31	d	7.99E-14	9.33E-03	2.96E+02	1.73E-16	2.30E-09	2.02E-11
Bi-206	6.243	d	1.51E-13	1.76E-02	5.59E+02	3.28E-16	4.37E-09	3.83E-11
Bi-207	32.9	y	7.03E-14	8.21E-03	2.60E+02	1.53E-16	2.04E-09	1.79E-11
Bi-208	3.68E+05	y	1.35E-13	1.58E-02	5.00E+02	2.93E-16	3.90E-09	3.42E-11
Bi-210	5.013	d	2.58E-16	3.01E-05	9.55E-01	2.98E-19	3.97E-12	3.48E-14
Bi-210m	3.04E+06	y	1.14E-14	1.33E-03	4.22E+01	2.49E-17	3.32E-10	2.91E-12
Bi-211	2.14	m	2.07E-15	2.42E-04	7.66E+00	4.51E-18	6.01E-11	5.26E-13
Bi-212	60.55	m	5.17E-15	6.04E-04	1.91E+01	1.08E-17	1.44E-10	1.26E-12
Bi-212n	7	m	3.89E-16	4.54E-05	1.44E+00	4.61E-19	6.14E-12	5.38E-14
Bi-213	45.59	m	5.94E-15	6.94E-04	2.20E+01	1.26E-17	1.68E-10	1.47E-12
Bi-214	19.9	m	7.11E-14	8.30E-03	2.63E+02	1.54E-16	2.05E-09	1.80E-11
Bi-215	7.6	m	1.18E-14	1.38E-03	4.37E+01	2.52E-17	3.36E-10	2.94E-12
Bi-216	2.17	m	3.41E-14	3.98E-03	1.26E+02	7.31E-17	9.74E-10	8.53E-12
Po-203	36.7	m	7.55E-14	8.82E-03	2.79E+02	1.64E-16	2.18E-09	1.91E-11
Po-204	3.53	h	5.16E-14	6.02E-03	1.91E+02	1.12E-16	1.49E-09	1.31E-11
Po-205	1.66	h	7.31E-14	8.54E-03	2.70E+02	1.59E-16	2.12E-09	1.86E-11
Po-206	8.8	d	5.33E-14	6.22E-03	1.97E+02	1.16E-16	1.55E-09	1.35E-11
Po-207	5.8	h	5.86E-14	6.84E-03	2.17E+02	1.27E-16	1.69E-09	1.48E-11
Po-208	2.898	y	9.36E-19	1.09E-07	3.46E-03	2.04E-21	2.72E-14	2.38E-16
Po-209	102	y	2.76E-16	3.22E-05	1.02E+00	6.01E-19	8.01E-12	7.01E-14

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem-m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μ Ci/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq-s)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-y)
Po-210	138.376	d	4.45E-19	5.20E-08	1.65E-03	9.65E-22	1.29E-14	1.13E-16
Po-211	0.516	s	3.73E-16	4.36E-05	1.38E+00	8.08E-19	1.08E-11	9.43E-14
Po-212	2.99E-07	s	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Po-212m	45.1	s	3.99E-15	4.66E-04	1.48E+01	8.65E-18	1.15E-10	1.01E-12
Po-213	4.20E-06	s	1.71E-18	2.00E-07	6.33E-03	3.71E-21	4.94E-14	4.33E-16
Po-214	1.64E-04	s	3.80E-18	4.44E-07	1.41E-02	8.23E-21	1.10E-13	9.60E-16
Po-215	1.78E-03	s	7.80E-18	9.11E-07	2.89E-02	1.70E-20	2.26E-13	1.98E-15
Po-216	0.145	s	7.00E-19	8.17E-08	2.59E-03	1.52E-21	2.02E-14	1.77E-16
Po-218	3.1	m	2.62E-21	3.06E-10	9.69E-06	2.86E-24	3.81E-17	3.34E-19
At-204	9.2	m	1.04E-13	1.21E-02	3.85E+02	2.26E-16	3.01E-09	2.64E-11
At-205	26.2	m	5.22E-14	6.10E-03	1.93E+02	1.13E-16	1.51E-09	1.32E-11
At-206	30.6	m	1.12E-13	1.31E-02	4.14E+02	2.44E-16	3.25E-09	2.85E-11
At-207	1.8	h	9.34E-14	1.09E-02	3.46E+02	2.03E-16	2.70E-09	2.37E-11
At-208	1.63	h	1.40E-13	1.63E-02	5.18E+02	3.03E-16	4.04E-09	3.54E-11
At-209	5.41	h	1.03E-13	1.20E-02	3.81E+02	2.24E-16	2.98E-09	2.61E-11
At-210	8.1	h	1.40E-13	1.63E-02	5.18E+02	3.03E-16	4.04E-09	3.54E-11
At-211	7.214	h	1.27E-15	1.48E-04	4.70E+00	2.86E-18	3.81E-11	3.34E-13
At-215	1.00E-04	s	7.53E-18	8.79E-07	2.79E-02	1.64E-20	2.18E-13	1.91E-15
At-216	3.00E-04	s	9.52E-17	1.11E-05	3.52E-01	2.12E-19	2.82E-12	2.47E-14
At-217	3.23E-02	s	1.06E-17	1.24E-06	3.92E-02	2.31E-20	3.08E-13	2.70E-15
At-218	1.5	s	9.80E-19	1.14E-07	3.63E-03	1.25E-21	1.67E-14	1.46E-16
At-219	56	s	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
At-220	3.71	m	2.09E-14	2.44E-03	7.73E+01	4.46E-17	5.94E-10	5.20E-12

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem- m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μCi/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq- s)	Water Submersion Dose Rate Coefficient (mrem- m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem- m ³ /μCi-y)
Rn-207	9.25	m	4.41E-14	5.15E-03	1.63E+02	9.59E-17	1.28E-09	1.12E-11
Rn-209	28.5	m	5.47E-14	6.39E-03	2.02E+02	1.19E-16	1.59E-09	1.39E-11
Rn-210	2.4	h	1.27E-14	1.48E-03	4.70E+01	5.89E-18	7.85E-11	6.87E-13
Rn-211	14.6	h	8.62E-14	1.01E-02	3.19E+02	1.87E-16	2.49E-09	2.18E-11
Rn-212	23.9	m	1.38E-14	1.61E-03	5.11E+01	3.32E-20	4.42E-13	3.87E-15
Rn-215	2.3	us	1.90E-14	2.22E-03	7.03E+01	0.00E+00	0.00E+00	0.00E+00
Rn-216	4.50E-05	s	1.77E-14	2.07E-03	6.55E+01	0.00E+00	0.00E+00	0.00E+00
Rn-217	5.40E-04	s	1.70E-14	1.98E-03	6.29E+01	0.00E+00	0.00E+00	0.00E+00
Rn-218	3.50E-02	s	1.58E-14	1.84E-03	5.85E+01	7.39E-20	9.84E-13	8.62E-15
Rn-219	3.96	s	1.48E-14	1.73E-03	5.48E+01	5.60E-18	7.46E-11	6.53E-13
Rn-220	55.6	s	1.38E-14	1.61E-03	5.11E+01	6.10E-20	8.13E-13	7.12E-15
Rn-222	3.8235	d	1.20E-14	1.40E-03	4.44E+01	3.76E-20	5.01E-13	4.39E-15
Rn-223	24.3	m	1.56E-14	1.82E-03	5.77E+01	3.35E-17	4.46E-10	3.91E-12
Fr-212	20	m	5.26E-14	6.14E-03	1.95E+02	1.14E-16	1.52E-09	1.33E-11
Fr-219	2.00E-02	s	1.57E-16	1.83E-05	5.81E-01	3.41E-19	4.54E-12	3.98E-14
Fr-220	27.4	s	3.52E-16	4.11E-05	1.30E+00	7.85E-19	1.05E-11	9.16E-14
Fr-221	4.9	m	1.25E-15	1.46E-04	4.63E+00	2.75E-18	3.66E-11	3.21E-13
Fr-222	14.2	m	8.17E-15	9.54E-04	3.02E+01	1.74E-17	2.32E-10	2.03E-12
Fr-223	22	m	2.15E-15	2.51E-04	7.96E+00	4.55E-18	6.06E-11	5.31E-13
Fr-224	3.33	m	2.62E-14	3.06E-03	9.69E+01	5.63E-17	7.50E-10	6.57E-12
Fr-227	2.47	m	2.00E-14	2.34E-03	7.40E+01	4.32E-17	5.75E-10	5.04E-12
Ra-219	10	ms	7.37E-15	8.61E-04	2.73E+01	1.61E-17	2.14E-10	1.88E-12
Ra-220	1.79E-02	s	2.07E-16	2.42E-05	7.66E-01	4.51E-19	6.01E-12	5.26E-14

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem- m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μCi/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq- s)	Water Submersion Dose Rate Coefficient (mrem- m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem- m ³ /μCi-y)
Ra-221	28	s	1.47E-15	1.72E-04	5.44E+00	3.24E-18	4.32E-11	3.78E-13
Ra-222	38	s	4.04E-16	4.72E-05	1.49E+00	8.81E-19	1.17E-11	1.03E-13
Ra-223	11.43	d	5.74E-15	6.70E-04	2.12E+01	1.27E-17	1.69E-10	1.48E-12
Ra-224	3.66	d	4.51E-16	5.27E-05	1.67E+00	9.87E-19	1.31E-11	1.15E-13
Ra-225	14.9	d	2.47E-16	2.88E-05	9.14E-01	5.43E-19	7.23E-12	6.34E-14
Ra-226	1600	y	3.11E-16	3.63E-05	1.15E+00	6.84E-19	9.11E-12	7.98E-14
Ra-227	42.2	m	6.37E-15	7.44E-04	2.36E+01	1.37E-17	1.82E-10	1.60E-12
Ra-228	5.75	y	2.89E-18	3.37E-07	1.07E-02	6.78E-21	9.03E-14	7.91E-16
Ra-230	93	m	3.33E-15	3.89E-04	1.23E+01	7.23E-18	9.63E-11	8.44E-13
Ac-223	2.1	m	7.28E-16	8.50E-05	2.69E+00	1.60E-18	2.13E-11	1.87E-13
Ac-224	2.78	h	9.33E-15	1.09E-03	3.45E+01	2.06E-17	2.74E-10	2.40E-12
Ac-225	10	d	5.66E-16	6.61E-05	2.09E+00	1.26E-18	1.68E-11	1.47E-13
Ac-226	29.37	h	5.68E-15	6.63E-04	2.10E+01	1.23E-17	1.64E-10	1.44E-12
Ac-227	21.772	y	3.65E-18	4.26E-07	1.35E-02	8.25E-21	1.10E-13	9.63E-16
Ac-228	6.15	h	4.01E-14	4.68E-03	1.48E+02	8.67E-17	1.15E-09	1.01E-11
Ac-230	122	s	2.66E-14	3.11E-03	9.84E+01	5.70E-17	7.59E-10	6.65E-12
Ac-231	7.5	m	1.84E-14	2.15E-03	6.81E+01	3.98E-17	5.30E-10	4.64E-12
Ac-232	119	s	5.65E-14	6.60E-03	2.09E+02	1.22E-16	1.63E-09	1.42E-11
Ac-233	145	s	2.29E-14	2.67E-03	8.47E+01	4.92E-17	6.55E-10	5.74E-12
Th-223	0.6	s	2.78E-15	3.25E-04	1.03E+01	6.18E-18	8.23E-11	7.21E-13
Th-224	1.05	s	9.75E-16	1.14E-04	3.61E+00	2.14E-18	2.85E-11	2.50E-13
Th-226	30.57	m	3.21E-16	3.75E-05	1.19E+00	7.08E-19	9.43E-12	8.26E-14
Th-227	18.68	d	5.22E-15	6.10E-04	1.93E+01	1.15E-17	1.53E-10	1.34E-12

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem- m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μCi/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq- s)	Water Submersion Dose Rate Coefficient (mrem- m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem- m ³ /μCi-y)
Th-228	1.9116	y	8.25E-17	9.63E-06	3.05E-01	1.84E-19	2.45E-12	2.15E-14
Th-229	7.34E+03	y	3.32E-15	3.88E-04	1.23E+01	7.40E-18	9.86E-11	8.63E-13
Th-230	7.54E+04	y	1.52E-17	1.77E-06	5.62E-02	3.42E-20	4.56E-13	3.99E-15
Th-231	25.52	h	4.63E-16	5.41E-05	1.71E+00	1.02E-18	1.36E-11	1.19E-13
Th-232	1.41E+10	y	7.90E-18	9.22E-07	2.92E-02	1.80E-20	2.40E-13	2.10E-15
Th-233	22.3	m	1.79E-15	2.09E-04	6.62E+00	3.63E-18	4.84E-11	4.24E-13
Th-234	24.1	d	3.22E-16	3.76E-05	1.19E+00	7.22E-19	9.62E-12	8.42E-14
Th-235	7.1	m	2.93E-15	3.42E-04	1.08E+01	5.86E-18	7.81E-11	6.84E-13
Th-236	37.5	m	1.68E-15	1.96E-04	6.22E+00	3.44E-18	4.58E-11	4.01E-13
Pa-227	38.3	m	7.18E-16	8.38E-05	2.66E+00	1.61E-18	2.14E-11	1.88E-13
Pa-228	22	h	6.21E-14	7.25E-03	2.30E+02	1.35E-16	1.80E-09	1.58E-11
Pa-229	1.5	d	2.33E-15	2.72E-04	8.62E+00	5.22E-18	6.95E-11	6.09E-13
Pa-230	17.4	d	2.99E-14	3.49E-03	1.11E+02	6.50E-17	8.66E-10	7.58E-12
Pa-231	3.28E+04	y	1.45E-15	1.69E-04	5.37E+00	3.18E-18	4.24E-11	3.71E-13
Pa-232	1.31	d	4.26E-14	4.97E-03	1.58E+02	9.25E-17	1.23E-09	1.08E-11
Pa-233	26.967	d	9.27E-15	1.08E-03	3.43E+01	2.03E-17	2.70E-10	2.37E-12
Pa-234	6.7	h	6.67E-14	7.79E-03	2.47E+02	1.45E-16	1.93E-09	1.69E-11
Pa-234m	1.17	m	1.42E-15	1.66E-04	5.25E+00	2.45E-18	3.26E-11	2.86E-13
Pa-235	24.5	m	3.35E-16	3.91E-05	1.24E+00	3.93E-19	5.23E-12	4.59E-14
Pa-236	9.1	m	4.36E-14	5.09E-03	1.61E+02	9.38E-17	1.25E-09	1.09E-11
Pa-237	8.7	m	2.82E-14	3.29E-03	1.04E+02	6.07E-17	8.09E-10	7.08E-12
U-227	1.1	m	4.85E-15	5.66E-04	1.79E+01	1.07E-17	1.43E-10	1.25E-12
U-228	9.1	m	1.59E-16	1.86E-05	5.88E-01	3.53E-19	4.70E-12	4.12E-14

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem- m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μCi/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq- s)	Water Submersion Dose Rate Coefficient (mrem- m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem- m ³ /μCi-y)
U-230	20.8	d	4.56E-17	5.32E-06	1.69E-01	1.02E-19	1.36E-12	1.19E-14
U-231	4.2	d	2.66E-15	3.11E-04	9.84E+00	5.96E-18	7.94E-11	6.95E-13
U-232	68.9	y	1.08E-17	1.26E-06	4.00E-02	2.43E-20	3.24E-13	2.84E-15
U-233	1.59E+05	y	1.06E-17	1.24E-06	3.92E-02	2.35E-20	3.13E-13	2.74E-15
U-234	2.46E+05	y	6.14E-18	7.17E-07	2.27E-02	1.40E-20	1.86E-13	1.63E-15
U-235	7.04E+08	y	6.87E-15	8.02E-04	2.54E+01	1.51E-17	2.01E-10	1.76E-12
U-235m	26	m	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
U-236	2.34E+07	y	3.78E-18	4.41E-07	1.40E-02	8.69E-21	1.16E-13	1.01E-15
U-237	6.75	d	5.28E-15	6.17E-04	1.95E+01	1.17E-17	1.56E-10	1.37E-12
U-238	4.47E+09	y	3.20E-18	3.74E-07	1.18E-02	7.32E-21	9.75E-14	8.54E-16
U-239	23.45	m	2.10E-15	2.45E-04	7.77E+00	4.41E-18	5.87E-11	5.15E-13
U-240	14.1	h	2.07E-16	2.42E-05	7.66E-01	4.30E-19	5.73E-12	5.02E-14
U-242	16.8	m	1.96E-15	2.29E-04	7.25E+00	4.03E-18	5.37E-11	4.70E-13
Np-232	14.7	m	5.35E-14	6.25E-03	1.98E+02	1.16E-16	1.55E-09	1.35E-11
Np-233	36.2	m	3.38E-15	3.95E-04	1.25E+01	7.52E-18	1.00E-10	8.77E-13
Np-234	4.4	d	5.23E-14	6.11E-03	1.94E+02	1.13E-16	1.51E-09	1.32E-11
Np-235	396.1	d	2.84E-17	3.32E-06	1.05E-01	6.43E-20	8.56E-13	7.50E-15
Np-236	1.54E+05	y	5.57E-15	6.50E-04	2.06E+01	1.23E-17	1.64E-10	1.44E-12
Np-236m	22.5	h	1.90E-15	2.22E-04	7.03E+00	4.18E-18	5.57E-11	4.88E-13
Np-237	2.14E+06	y	8.60E-16	1.00E-04	3.18E+00	1.93E-18	2.57E-11	2.25E-13
Np-238	2.117	d	2.72E-14	3.18E-03	1.01E+02	5.88E-17	7.83E-10	6.86E-12
Np-239	2.3565	d	7.35E-15	8.58E-04	2.72E+01	1.62E-17	2.16E-10	1.89E-12
Np-240	61.9	m	4.73E-14	5.52E-03	1.75E+02	1.03E-16	1.37E-09	1.20E-11

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem-m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μ Ci/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq-s)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-y)
Np-240m	7.22	m	1.49E-14	1.74E-03	5.51E+01	3.20E-17	4.26E-10	3.73E-12
Np-241	13.9	m	1.79E-15	2.09E-04	6.62E+00	3.67E-18	4.89E-11	4.28E-13
Np-242	2.2	m	1.33E-14	1.55E-03	4.92E+01	2.82E-17	3.76E-10	3.29E-12
Np-242m	5.5	m	4.16E-14	4.86E-03	1.54E+02	8.99E-17	1.20E-09	1.05E-11
Pu-232	33.7	m	2.31E-15	2.70E-04	8.55E+00	5.16E-18	6.87E-11	6.02E-13
Pu-234	8.8	h	2.50E-15	2.92E-04	9.25E+00	5.58E-18	7.43E-11	6.51E-13
Pu-235	25.3	m	3.46E-15	4.04E-04	1.28E+01	7.70E-18	1.03E-10	8.98E-13
Pu-236	2.858	y	4.33E-18	5.06E-07	1.60E-02	1.00E-20	1.33E-13	1.17E-15
Pu-237	45.2	d	1.79E-15	2.09E-04	6.62E+00	4.00E-18	5.33E-11	4.67E-13
Pu-238	87.7	y	3.36E-18	3.92E-07	1.24E-02	7.81E-21	1.04E-13	9.11E-16
Pu-239	2.41E+04	y	3.77E-18	4.40E-07	1.39E-02	8.51E-21	1.13E-13	9.93E-16
Pu-240	6564	y	3.29E-18	3.84E-07	1.22E-02	7.66E-21	1.02E-13	8.94E-16
Pu-241	14.35	y	6.15E-20	7.18E-09	2.28E-04	1.37E-22	1.82E-15	1.60E-17
Pu-242	3.75E+05	y	6.43E-18	7.51E-07	2.38E-02	1.43E-20	1.90E-13	1.67E-15
Pu-243	4.956	h	9.65E-16	1.13E-04	3.57E+00	2.08E-18	2.77E-11	2.43E-13
Pu-244	8.00E+07	y	9.70E-16	1.13E-04	3.59E+00	2.09E-18	2.78E-11	2.44E-13
Pu-245	10.5	h	1.81E-14	2.11E-03	6.70E+01	3.92E-17	5.22E-10	4.57E-12
Pu-246	10.84	d	5.43E-15	6.34E-04	2.01E+01	1.20E-17	1.60E-10	1.40E-12
Am-237	73	m	1.55E-14	1.81E-03	5.74E+01	3.41E-17	4.54E-10	3.98E-12
Am-238	98	m	4.09E-14	4.78E-03	1.51E+02	8.88E-17	1.18E-09	1.04E-11
Am-239	11.9	h	9.37E-15	1.09E-03	3.47E+01	2.07E-17	2.76E-10	2.42E-12
Am-240	50.8	h	4.69E-14	5.48E-03	1.74E+02	1.02E-16	1.36E-09	1.19E-11
Am-241	432.2	y	6.72E-16	7.85E-05	2.49E+00	1.54E-18	2.05E-11	1.80E-13

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem-m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μ Ci/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq-s)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-y)
Am-242	16.02	h	6.11E-16	7.13E-05	2.26E+00	1.27E-18	1.69E-11	1.48E-13
Am-242m	141	y	1.98E-17	2.31E-06	7.33E-02	4.53E-20	6.03E-13	5.29E-15
Am-243	7.37E+03	y	1.92E-15	2.24E-04	7.10E+00	4.34E-18	5.78E-11	5.06E-13
Am-244	10.1	h	3.58E-14	4.18E-03	1.32E+02	7.77E-17	1.03E-09	9.07E-12
Am-244m	26	m	1.04E-15	1.21E-04	3.85E+00	1.89E-18	2.52E-11	2.21E-13
Am-245	2.05	h	1.45E-15	1.69E-04	5.37E+00	3.03E-18	4.04E-11	3.54E-13
Am-246	39	m	3.27E-14	3.82E-03	1.21E+02	7.09E-17	9.44E-10	8.27E-12
Am-246m	25	m	4.57E-14	5.34E-03	1.69E+02	9.86E-17	1.31E-09	1.15E-11
Am-247	23	m	5.85E-15	6.83E-04	2.16E+01	1.25E-17	1.67E-10	1.46E-12
Cm-238	2.4	h	3.05E-15	3.56E-04	1.13E+01	6.80E-18	9.06E-11	7.93E-13
Cm-239	2.9	h	1.05E-14	1.23E-03	3.89E+01	2.32E-17	3.09E-10	2.71E-12
Cm-240	27	d	4.54E-18	5.30E-07	1.68E-02	1.06E-20	1.41E-13	1.24E-15
Cm-241	32.8	d	2.12E-14	2.48E-03	7.84E+01	4.63E-17	6.17E-10	5.40E-12
Cm-242	162.8	d	3.90E-18	4.55E-07	1.44E-02	9.09E-21	1.21E-13	1.06E-15
Cm-243	29.1	y	5.33E-15	6.22E-04	1.97E+01	1.17E-17	1.56E-10	1.37E-12
Cm-244	18.1	y	4.00E-18	4.67E-07	1.48E-02	9.22E-21	1.23E-13	1.08E-15
Cm-245	8.50E+03	y	4.00E-15	4.67E-04	1.48E+01	8.90E-18	1.19E-10	1.04E-12
Cm-246	4.76E+03	y	1.79E-16	2.09E-05	6.62E-01	3.87E-19	5.15E-12	4.52E-14
Cm-247	1.56E+07	y	1.38E-14	1.61E-03	5.11E+01	3.01E-17	4.01E-10	3.51E-12
Cm-248	3.48E+05	y	6.41E-14	7.48E-03	2.37E+02	1.39E-16	1.85E-09	1.62E-11
Cm-249	64.15	m	1.02E-15	1.19E-04	3.77E+00	2.04E-18	2.72E-11	2.38E-13
Cm-250	8300	y	6.52E-13	7.61E-02	2.41E+03	1.41E-15	1.88E-08	1.65E-10
Cm-251	16.8	m	5.20E-15	6.07E-04	1.92E+01	1.10E-17	1.47E-10	1.28E-12

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem-m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μ Ci/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq-s)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem-m ³ /pCi-y)
Bk-245	4.94	d	9.29E-15	1.08E-03	3.44E+01	2.05E-17	2.73E-10	2.39E-12
Bk-246	1.8	d	3.82E-14	4.46E-03	1.41E+02	8.30E-17	1.11E-09	9.68E-12
Bk-247	1.38E+03	y	5.99E-15	6.99E-04	2.22E+01	1.32E-17	1.76E-10	1.54E-12
Bk-248m	23.7	h	2.28E-15	2.66E-04	8.44E+00	4.91E-18	6.54E-11	5.73E-13
Bk-249	330	d	4.37E-19	5.10E-08	1.62E-03	5.42E-22	7.22E-15	6.32E-17
Bk-250	3.212	h	4.18E-14	4.88E-03	1.55E+02	9.03E-17	1.20E-09	1.05E-11
Bk-251	55.6	m	3.56E-15	4.16E-04	1.32E+01	7.70E-18	1.03E-10	8.98E-13
Cf-244	19.4	m	4.32E-18	5.04E-07	1.60E-02	1.01E-20	1.35E-13	1.18E-15
Cf-246	35.7	h	4.90E-18	5.72E-07	1.81E-02	1.12E-20	1.49E-13	1.31E-15
Cf-247	3.11	h	3.58E-15	4.18E-04	1.32E+01	7.95E-18	1.06E-10	9.28E-13
Cf-248	334	d	2.00E-17	2.34E-06	7.40E-02	4.40E-20	5.86E-13	5.13E-15
Cf-249	351	y	1.43E-14	1.67E-03	5.29E+01	3.11E-17	4.14E-10	3.63E-12
Cf-250	13.08	y	4.82E-16	5.63E-05	1.78E+00	1.04E-18	1.39E-11	1.21E-13
Cf-251	900	y	4.84E-15	5.65E-04	1.79E+01	1.07E-17	1.43E-10	1.25E-12
Cf-252	2.645	y	2.23E-14	2.60E-03	8.25E+01	4.81E-17	6.41E-10	5.61E-12
Cf-253	17.81	d	3.15E-17	3.68E-06	1.17E-01	5.64E-20	7.51E-13	6.58E-15
Cf-254	60.5	d	8.24E-13	9.62E-02	3.05E+03	1.78E-15	2.37E-08	2.08E-10
Cf-255	85	m	1.16E-16	1.35E-05	4.29E-01	1.30E-19	1.73E-12	1.52E-14
Es-249	102.2	m	1.77E-14	2.07E-03	6.55E+01	3.86E-17	5.14E-10	4.50E-12
Es-250	8.6	h	5.25E-14	6.13E-03	1.94E+02	1.14E-16	1.52E-09	1.33E-11
Es-250m	2.22	h	2.49E-14	2.91E-03	9.21E+01	5.42E-17	7.22E-10	6.32E-12
Es-251	33	h	3.58E-15	4.18E-04	1.32E+01	7.96E-18	1.06E-10	9.29E-13

Nuclide	Half-life	Class	Air Immersion Dose Rate Coefficient (Sv/s per Bq/m ³)	Air Immersion Dose Rate Coefficient (mrem- m ³ /pCi-yr)	Air Immersion Effective Dose Rate (mrem/sec per μCi/cm ³)	Water Submersion Dose Rate Coefficient (Sv-m ³ /Bq- s)	Water Submersion Dose Rate Coefficient (mrem- m ³ /pCi-h)	Water Submersion Dose Rate Coefficient (mrem- m ³ /μCi-y)
Es-253	20.47	d	1.50E-17	1.75E-06	5.55E-02	3.30E-20	4.40E-13	3.85E-15
Es-254	275.7	d	1.47E-16	1.72E-05	5.44E-01	3.33E-19	4.44E-12	3.89E-14
Es-254m	39.3	h	2.13E-14	2.49E-03	7.88E+01	4.61E-17	6.14E-10	5.38E-12
Es-255	39.8	d	4.95E-17	5.78E-06	1.83E-01	8.96E-20	1.19E-12	1.05E-14
Es-256	25.4	m	4.33E-16	5.06E-05	1.60E+00	5.29E-19	7.05E-12	6.17E-14
Fm-251	5.3	h	6.35E-15	7.41E-04	2.35E+01	1.40E-17	1.86E-10	1.63E-12
Fm-252	25.39	h	1.71E-17	2.00E-06	6.33E-02	3.78E-20	5.03E-13	4.41E-15
Fm-253	3	d	2.32E-15	2.71E-04	8.58E+00	5.15E-18	6.86E-11	6.01E-13
Fm-254	3.24	h	3.47E-16	4.05E-05	1.28E+00	7.50E-19	9.99E-12	8.75E-14
Fm-255	20.07	h	9.47E-17	1.11E-05	3.50E-01	2.16E-19	2.88E-12	2.52E-14
Fm-256	157.6	m	6.07E-13	7.09E-02	2.25E+03	1.31E-15	1.74E-08	1.53E-10
Fm-257	100.5	d	6.02E-15	7.03E-04	2.23E+01	1.32E-17	1.76E-10	1.54E-12

Table C-2 Ground Shine Dose Rate Coefficients

Nuclide	Ground Shine Dose Rate Coefficient (Sv-m ² /Bq-s)	Ground Shine Dose Rate Coefficient mrem-m ² /pCi-h	Ground Shine Dose Rate Coefficient mrem-m ² /μCi-y
H-3	0.00E+00	0.00E+00	0.00E+00
Be-7	4.76E-17	6.34E-10	5.55E+00
Be-10	3.44E-18	4.58E-11	4.01E-01
C-10	1.76E-15	2.34E-08	2.05E+02
C-11	1.00E-15	1.33E-08	1.17E+02
C-14	1.28E-20	1.70E-13	1.49E-03
N-13	1.03E-15	1.37E-08	1.20E+02
N-16	3.44E-15	4.58E-08	4.01E+02
O-14	3.03E-15	4.04E-08	3.54E+02
O-15	1.07E-15	1.43E-08	1.25E+02
O-19	1.03E-15	1.37E-08	1.20E+02
F-17	1.07E-15	1.43E-08	1.25E+02
F-18	9.49E-16	1.26E-08	1.11E+02
Ne-19	1.09E-15	1.45E-08	1.27E+02
Ne-24	6.15E-16	8.19E-09	7.18E+01
Na-22	2.05E-15	2.73E-08	2.39E+02
Na-24	3.59E-15	4.78E-08	4.19E+02
Mg-27	9.25E-16	1.23E-08	1.08E+02
Mg-28	1.26E-15	1.68E-08	1.47E+02
Al-26	2.47E-15	3.29E-08	2.88E+02
Al-28	1.71E-15	2.28E-08	2.00E+02
Al-29	1.37E-15	1.82E-08	1.60E+02
Si-31	7.13E-17	9.50E-10	8.32E+00
Si-32	2.87E-20	3.82E-13	3.35E-03
P-30	1.13E-15	1.51E-08	1.32E+02
P-32	8.52E-17	1.13E-09	9.94E+00
P-33	3.64E-20	4.85E-13	4.25E-03
S-35	1.33E-20	1.77E-13	1.55E-03
S-37	2.48E-15	3.30E-08	2.89E+02
S-38	1.52E-15	2.02E-08	1.77E+02
Cl-34	1.17E-15	1.56E-08	1.37E+02
Cl-34m	1.91E-15	2.54E-08	2.23E+02
Cl-36	1.11E-17	1.48E-10	1.30E+00
Cl-38	1.40E-15	1.86E-08	1.63E+02
Cl-39	1.42E-15	1.89E-08	1.66E+02
Cl-40	3.60E-15	4.80E-08	4.20E+02

Nuclide	Ground Shine Dose Rate Coefficient (Sv-m ² /Bq-s)	Ground Shine Dose Rate Coefficient mrem-m ² /pCi-h	Ground Shine Dose Rate Coefficient mrem-m ² /μCi-y
Ar-37	0.00E+00	0.00E+00	0.00E+00
Ar-39	2.52E-18	3.36E-11	2.94E-01
Ar-41	1.22E-15	1.63E-08	1.42E+02
Ar-42	4.08E-18	5.43E-11	4.76E-01
Ar-43	1.52E-15	2.02E-08	1.77E+02
Ar-44	1.78E-15	2.37E-08	2.08E+02
K-38	2.97E-15	3.96E-08	3.47E+02
K-40	2.04E-16	2.72E-09	2.38E+01
K-42	4.00E-16	5.33E-09	4.67E+01
K-43	9.35E-16	1.25E-08	1.09E+02
K-44	2.23E-15	2.97E-08	2.60E+02
K-45	1.74E-15	2.32E-08	2.03E+02
K-46	2.66E-15	3.54E-08	3.10E+02
Ca-41	0.00E+00	0.00E+00	0.00E+00
Ca-45	3.78E-20	5.03E-13	4.41E-03
Ca-47	9.90E-16	1.32E-08	1.16E+02
Ca-49	2.67E-15	3.56E-08	3.12E+02
Sc-42m	4.03E-15	5.37E-08	4.70E+02
Sc-43	9.82E-16	1.31E-08	1.15E+02
Sc-44	2.08E-15	2.77E-08	2.43E+02
Sc-44m	2.56E-16	3.41E-09	2.99E+01
Sc-46	1.88E-15	2.50E-08	2.19E+02
Sc-47	1.00E-16	1.33E-09	1.17E+01
Sc-48	3.11E-15	4.14E-08	3.63E+02
Sc-49	1.01E-16	1.35E-09	1.18E+01
Sc-50	3.10E-15	4.13E-08	3.62E+02
Ti-44	1.23E-16	1.64E-09	1.44E+01
Ti-45	8.66E-16	1.15E-08	1.01E+02
Ti-51	4.54E-16	6.05E-09	5.30E+01
Ti-52	2.05E-16	2.73E-09	2.39E+01
V-47	1.05E-15	1.40E-08	1.23E+02
V-48	2.71E-15	3.61E-08	3.16E+02
V-49	0.00E+00	0.00E+00	0.00E+00
V-50	1.28E-15	1.70E-08	1.49E+02
V-52	1.43E-15	1.90E-08	1.67E+02
V-53	1.09E-15	1.45E-08	1.27E+02
Cr-48	4.05E-16	5.39E-09	4.73E+01
Cr-49	1.07E-15	1.43E-08	1.25E+02
Cr-51	2.99E-17	3.98E-10	3.49E+00

Nuclide	Ground Shine Dose Rate Coefficient (Sv-m ² /Bq-s)	Ground Shine Dose Rate Coefficient mrem-m ² /pCi-h	Ground Shine Dose Rate Coefficient mrem-m ² /μCi-y
Cr-55	1.29E-16	1.72E-09	1.51E+01
Cr-56	1.48E-16	1.97E-09	1.73E+01
Mn-50m	4.47E-15	5.95E-08	5.22E+02
Mn-51	1.07E-15	1.43E-08	1.25E+02
Mn-52m	2.36E-15	3.14E-08	2.75E+02
Mn-52	3.21E-15	4.28E-08	3.75E+02
Mn-53	0.00E+00	0.00E+00	0.00E+00
Mn-54	7.89E-16	1.05E-08	9.21E+01
Mn-56	1.62E-15	2.16E-08	1.89E+02
Mn-57	2.17E-16	2.89E-09	2.53E+01
Mn-58m	2.36E-15	3.14E-08	2.75E+02
Fe-52	7.10E-16	9.46E-09	8.28E+01
Fe-53	1.25E-15	1.67E-08	1.46E+02
Fe-53m	2.81E-15	3.74E-08	3.28E+02
Fe-55	1.45E-25	1.93E-18	1.69E-08
Fe-59	1.10E-15	1.47E-08	1.28E+02
Fe-60	2.29E-20	3.05E-13	2.67E-03
Fe-61	1.40E-15	1.86E-08	1.63E+02
Fe-62	5.85E-16	7.79E-09	6.83E+01
Co-54m	3.85E-15	5.13E-08	4.49E+02
Co-55	1.92E-15	2.56E-08	2.24E+02
Co-56	3.27E-15	4.36E-08	3.82E+02
Co-57	1.09E-16	1.45E-09	1.27E+01
Co-58	9.22E-16	1.23E-08	1.08E+02
Co-58m	6.68E-21	8.90E-14	7.79E-04
Co-60	2.30E-15	3.06E-08	2.68E+02
Co-60m	4.24E-18	5.65E-11	4.95E-01
Co-61	1.36E-16	1.81E-09	1.59E+01
Co-62	1.61E-15	2.14E-08	1.88E+02
Co-62m	2.57E-15	3.42E-08	3.00E+02
Ni-56	1.61E-15	2.14E-08	1.88E+02
Ni-57	1.78E-15	2.37E-08	2.08E+02
Ni-59	1.48E-20	1.97E-13	1.73E-03
Ni-63	0.00E+00	0.00E+00	0.00E+00
Ni-65	5.77E-16	7.69E-09	6.73E+01
Ni-66	3.45E-20	4.60E-13	4.03E-03
Cu-57	1.36E-15	1.81E-08	1.59E+02
Cu-59	1.52E-15	2.02E-08	1.77E+02
Cu-60	3.65E-15	4.86E-08	4.26E+02

Nuclide	Ground Shine Dose Rate Coefficient (Sv-m²/Bq-s)	Ground Shine Dose Rate Coefficient mrem-m²/pCi-h	Ground Shine Dose Rate Coefficient mrem-m²/μCi-y
Cu-61	8.15E-16	1.09E-08	9.51E+01
Cu-62	1.11E-15	1.48E-08	1.30E+02
Cu-64	1.78E-16	2.37E-09	2.08E+01
Cu-66	2.15E-16	2.86E-09	2.51E+01
Cu-67	1.05E-16	1.40E-09	1.23E+01
Cu-69	5.97E-16	7.95E-09	6.97E+01
Zn-60	1.59E-15	2.12E-08	1.86E+02
Zn-61	1.61E-15	2.14E-08	1.88E+02
Zn-62	4.19E-16	5.58E-09	4.89E+01
Zn-63	1.16E-15	1.55E-08	1.35E+02
Zn-65	5.37E-16	7.15E-09	6.27E+01
Zn-69m	3.98E-16	5.30E-09	4.64E+01
Zn-69	2.09E-17	2.78E-10	2.44E+00
Zn-71m	1.54E-15	2.05E-08	1.80E+02
Zn-71	4.19E-16	5.58E-09	4.89E+01
Zn-72	1.33E-16	1.77E-09	1.55E+01
Ga-64	3.18E-15	4.24E-08	3.71E+02
Ga-65	1.20E-15	1.60E-08	1.40E+02
Ga-66	2.26E-15	3.01E-08	2.64E+02
Ga-67	1.43E-16	1.90E-09	1.67E+01
Ga-68	9.97E-16	1.33E-08	1.16E+02
Ga-70	8.45E-17	1.13E-09	9.86E+00
Ga-72	2.48E-15	3.30E-08	2.89E+02
Ga-73	3.71E-16	4.94E-09	4.33E+01
Ga-74	2.90E-15	3.86E-08	3.38E+02
Ge-66	6.41E-16	8.54E-09	7.48E+01
Ge-67	1.47E-15	1.96E-08	1.72E+02
Ge-68	3.61E-20	4.81E-13	4.21E-03
Ge-69	8.99E-16	1.20E-08	1.05E+02
Ge-71	3.66E-20	4.88E-13	4.27E-03
Ge-75	7.30E-17	9.72E-10	8.52E+00
Ge-77	1.08E-15	1.44E-08	1.26E+02
Ge-78	2.66E-16	3.54E-09	3.10E+01
As-68	3.61E-15	4.81E-08	4.21E+02
As-69	1.22E-15	1.63E-08	1.42E+02
As-70	4.04E-15	5.38E-08	4.71E+02
As-71	5.44E-16	7.25E-09	6.35E+01
As-72	1.80E-15	2.40E-08	2.10E+02
As-73	5.14E-18	6.85E-11	6.00E-01

Nuclide	Ground Shine Dose Rate Coefficient (Sv-m ² /Bq-s)	Ground Shine Dose Rate Coefficient mrem-m ² /pCi-h	Ground Shine Dose Rate Coefficient mrem-m ² /μCi-y
As-74	7.46E-16	9.94E-09	8.70E+01
As-76	5.13E-16	6.83E-09	5.99E+01
As-77	1.33E-17	1.77E-10	1.55E+00
As-78	1.33E-15	1.77E-08	1.55E+02
As-79	1.38E-16	1.84E-09	1.61E+01
Se-70	6.96E-16	9.27E-09	8.12E+01
Se-71	1.66E-15	2.21E-08	1.94E+02
Se-72	2.43E-17	3.24E-10	2.84E+00
Se-73	1.08E-15	1.44E-08	1.26E+02
Se-73m	2.67E-16	3.56E-09	3.12E+01
Se-75	3.56E-16	4.74E-09	4.15E+01
Se-77m	7.88E-17	1.05E-09	9.19E+00
Se-79	1.45E-20	1.93E-13	1.69E-03
Se-79m	8.56E-18	1.14E-10	9.99E-01
Se-81	8.02E-17	1.07E-09	9.36E+00
Se-81m	1.27E-17	1.69E-10	1.48E+00
Se-83	2.45E-15	3.26E-08	2.86E+02
Se-83m	1.04E-15	1.39E-08	1.21E+02
Se-84	4.63E-16	6.17E-09	5.40E+01
Br-72	2.99E-15	3.98E-08	3.49E+02
Br-73	1.51E-15	2.01E-08	1.76E+02
Br-74	4.10E-15	5.46E-08	4.78E+02
Br-74m	3.85E-15	5.13E-08	4.49E+02
Br-75	1.20E-15	1.60E-08	1.40E+02
Br-76	2.58E-15	3.44E-08	3.01E+02
Br-76m	3.23E-17	4.30E-10	3.77E+00
Br-77	2.99E-16	3.98E-09	3.49E+01
Br-77m	1.37E-17	1.82E-10	1.60E+00
Br-78	1.11E-15	1.48E-08	1.30E+02
Br-80	1.60E-16	2.13E-09	1.87E+01
Br-80m	1.38E-17	1.84E-10	1.61E+00
Br-82	2.48E-15	3.30E-08	2.89E+02
Br-82m	6.67E-18	8.88E-11	7.78E-01
Br-83	2.88E-17	3.84E-10	3.36E+00
Br-84	1.65E-15	2.20E-08	1.93E+02
Br-84m	2.66E-15	3.54E-08	3.10E+02
Br-85	1.83E-16	2.44E-09	2.14E+01
Kr-74	1.07E-15	1.43E-08	1.25E+02
Kr-75	1.37E-15	1.82E-08	1.60E+02

Nuclide	Ground Shine Dose Rate Coefficient (Sv-m ² /Bq-s)	Ground Shine Dose Rate Coefficient mrem-m ² /pCi-h	Ground Shine Dose Rate Coefficient mrem-m ² /μCi-y
Kr-76	3.96E-16	5.27E-09	4.62E+01
Kr-77	1.06E-15	1.41E-08	1.24E+02
Kr-79	2.37E-16	3.16E-09	2.77E+01
Kr-81	1.57E-18	2.09E-11	1.83E-01
Kr-81m	1.18E-16	1.57E-09	1.38E+01
Kr-83m	3.26E-19	4.34E-12	3.80E-02
Kr-85	1.05E-17	1.40E-10	1.23E+00
Kr-85m	1.56E-16	2.08E-09	1.82E+01
Kr-87	8.38E-16	1.12E-08	9.78E+01
Kr-88	1.72E-15	2.29E-08	2.01E+02
Kr-89	1.84E-15	2.45E-08	2.15E+02
Rb-77	1.62E-15	2.16E-08	1.89E+02
Rb-78	3.67E-15	4.89E-08	4.28E+02
Rb-78m	3.11E-15	4.14E-08	3.63E+02
Rb-79	1.46E-15	1.94E-08	1.70E+02
Rb-80	1.33E-15	1.77E-08	1.55E+02
Rb-81	4.90E-16	6.53E-09	5.72E+01
Rb-81m	2.43E-17	3.24E-10	2.84E+00
Rb-82	1.21E-15	1.61E-08	1.41E+02
Rb-82m	2.74E-15	3.65E-08	3.20E+02
Rb-83	4.64E-16	6.18E-09	5.41E+01
Rb-84	8.70E-16	1.16E-08	1.02E+02
Rb-84m	3.58E-16	4.77E-09	4.18E+01
Rb-86	1.65E-16	2.20E-09	1.93E+01
Rb-86m	5.23E-16	6.97E-09	6.10E+01
Rb-87	7.89E-20	1.05E-12	9.21E-03
Rb-88	7.48E-16	9.96E-09	8.73E+01
Rb-89	2.12E-15	2.82E-08	2.47E+02
Rb-90	1.84E-15	2.45E-08	2.15E+02
Rb-90m	2.95E-15	3.93E-08	3.44E+02
Sr-79	1.30E-15	1.73E-08	1.52E+02
Sr-80	4.13E-16	5.50E-09	4.82E+01
Sr-81	1.43E-15	1.90E-08	1.67E+02
Sr-82	1.52E-18	2.02E-11	1.77E-01
Sr-83	7.80E-16	1.04E-08	9.10E+01
Sr-85	4.72E-16	6.29E-09	5.51E+01
Sr-85m	2.00E-16	2.66E-09	2.33E+01
Sr-87m	3.03E-16	4.04E-09	3.54E+01
Sr-89	6.88E-17	9.16E-10	8.03E+00

Nuclide	Ground Shine Dose Rate Coefficient (Sv-m ² /Bq-s)	Ground Shine Dose Rate Coefficient mrem-m ² /pCi-h	Ground Shine Dose Rate Coefficient mrem-m ² /μCi-y
Sr-90	1.64E-18	2.18E-11	1.91E-01
Sr-91	7.35E-16	9.79E-09	8.58E+01
Sr-92	1.22E-15	1.63E-08	1.42E+02
Sr-93	2.17E-15	2.89E-08	2.53E+02
Sr-94	1.40E-15	1.86E-08	1.63E+02
Y-81	1.29E-15	1.72E-08	1.51E+02
Y-83	1.41E-15	1.88E-08	1.65E+02
Y-83m	8.80E-16	1.17E-08	1.03E+02
Y-84m	3.86E-15	5.14E-08	4.50E+02
Y-85	1.09E-15	1.45E-08	1.27E+02
Y-85m	1.29E-15	1.72E-08	1.51E+02
Y-86	3.31E-15	4.41E-08	3.86E+02
Y-86m	2.03E-16	2.70E-09	2.37E+01
Y-87	4.20E-16	5.59E-09	4.90E+01
Y-87m	2.91E-16	3.88E-09	3.40E+01
Y-88	2.41E-15	3.21E-08	2.81E+02
Y-89m	8.49E-16	1.13E-08	9.91E+01
Y-90	1.10E-16	1.47E-09	1.28E+01
Y-90m	6.02E-16	8.02E-09	7.02E+01
Y-91	7.43E-17	9.90E-10	8.67E+00
Y-91m	5.08E-16	6.77E-09	5.93E+01
Y-92	3.83E-16	5.10E-09	4.47E+01
Y-93	2.17E-16	2.89E-09	2.53E+01
Y-94	8.90E-16	1.19E-08	1.04E+02
Y-95	1.09E-15	1.45E-08	1.27E+02
Zr-85	1.54E-15	2.05E-08	1.80E+02
Zr-86	2.63E-16	3.50E-09	3.07E+01
Zr-87	9.81E-16	1.31E-08	1.14E+02
Zr-88	3.66E-16	4.88E-09	4.27E+01
Zr-89	1.10E-15	1.47E-08	1.28E+02
Zr-89m	6.04E-16	8.05E-09	7.05E+01
Zr-93	0.00E+00	0.00E+00	0.00E+00
Zr-95	6.96E-16	9.27E-09	8.12E+01
Zr-97	9.18E-16	1.22E-08	1.07E+02
Nb-87	1.32E-15	1.76E-08	1.54E+02
Nb-88	4.11E-15	5.47E-08	4.80E+02
Nb-88m	3.99E-15	5.31E-08	4.66E+02
Nb-89	1.37E-15	1.82E-08	1.60E+02
Nb-89m	1.34E-15	1.78E-08	1.56E+02

Nuclide	Ground Shine Dose Rate Coefficient (Sv-m ² /Bq-s)	Ground Shine Dose Rate Coefficient mrem-m ² /pCi-h	Ground Shine Dose Rate Coefficient mrem-m ² /μCi-y
Nb-90	3.78E-15	5.03E-08	4.41E+02
Nb-91	4.74E-18	6.31E-11	5.53E-01
Nb-91m	2.62E-17	3.49E-10	3.06E+00
Nb-92	1.42E-15	1.89E-08	1.66E+02
Nb-92m	9.03E-16	1.20E-08	1.05E+02
Nb-93m	6.83E-19	9.10E-12	7.97E-02
Nb-94	1.48E-15	1.97E-08	1.73E+02
Nb-94m	6.97E-18	9.28E-11	8.13E-01
Nb-95	7.26E-16	9.67E-09	8.47E+01
Nb-95m	6.25E-17	8.33E-10	7.29E+00
Nb-96	2.33E-15	3.10E-08	2.72E+02
Nb-97	6.82E-16	9.08E-09	7.96E+01
Nb-98m	2.71E-15	3.61E-08	3.16E+02
Nb-99	3.08E-16	4.10E-09	3.59E+01
Nb-99m	8.03E-16	1.07E-08	9.37E+01
Mo-89	1.34E-15	1.78E-08	1.56E+02
Mo-90	7.83E-16	1.04E-08	9.14E+01
Mo-91	1.08E-15	1.44E-08	1.26E+02
Mo-91m	1.36E-15	1.81E-08	1.59E+02
Mo-93	3.83E-18	5.10E-11	4.47E-01
Mo-93m	2.13E-15	2.84E-08	2.49E+02
Mo-99	1.77E-16	2.36E-09	2.07E+01
Mo-101	1.40E-15	1.86E-08	1.63E+02
Mo-102	4.41E-17	5.87E-10	5.15E+00
Tc-91	2.41E-15	3.21E-08	2.81E+02
Tc-91m	1.53E-15	2.04E-08	1.79E+02
Tc-92	3.71E-15	4.94E-08	4.33E+02
Tc-93	1.42E-15	1.89E-08	1.66E+02
Tc-93m	8.31E-16	1.11E-08	9.70E+01
Tc-94	2.51E-15	3.34E-08	2.93E+02
Tc-94m	1.91E-15	2.54E-08	2.23E+02
Tc-95	7.48E-16	9.96E-09	8.73E+01
Tc-95m	6.43E-16	8.56E-09	7.50E+01
Tc-96	2.36E-15	3.14E-08	2.75E+02
Tc-96m	4.16E-17	5.54E-10	4.85E+00
Tc-97	4.56E-18	6.07E-11	5.32E-01
Tc-97m	4.37E-18	5.82E-11	5.10E-01
Tc-98	1.34E-15	1.78E-08	1.56E+02
Tc-99	6.55E-20	8.72E-13	7.64E-03

Nuclide	Ground Shine Dose Rate Coefficient (Sv-m²/Bq-s)	Ground Shine Dose Rate Coefficient mrem-m²/pCi-h	Ground Shine Dose Rate Coefficient mrem-m²/μCi-y
Tc-99m	1.14E-16	1.52E-09	1.33E+01
Tc-101	3.66E-16	4.88E-09	4.27E+01
Tc-102	2.59E-16	3.45E-09	3.02E+01
Tc-102m	2.34E-15	3.12E-08	2.73E+02
Tc-104	2.17E-15	2.89E-08	2.53E+02
Tc-105	8.68E-16	1.16E-08	1.01E+02
Ru-92	2.00E-15	2.66E-08	2.33E+02
Ru-94	4.85E-16	6.46E-09	5.66E+01
Ru-95	1.16E-15	1.55E-08	1.35E+02
Ru-97	2.17E-16	2.89E-09	2.53E+01
Ru-103	4.74E-16	6.31E-09	5.53E+01
Ru-105	7.48E-16	9.96E-09	8.73E+01
Ru-106	0.00E+00	0.00E+00	0.00E+00
Ru-107	4.42E-16	5.89E-09	5.16E+01
Ru-108	1.05E-16	1.40E-09	1.23E+01
Rh-94	3.70E-15	4.93E-08	4.32E+02
Rh-95	2.45E-15	3.26E-08	2.86E+02
Rh-95m	8.24E-16	1.10E-08	9.61E+01
Rh-96	3.77E-15	5.02E-08	4.40E+02
Rh-96m	1.24E-15	1.65E-08	1.45E+02
Rh-97	1.42E-15	1.89E-08	1.66E+02
Rh-97m	1.97E-15	2.62E-08	2.30E+02
Rh-98	1.85E-15	2.46E-08	2.16E+02
Rh-99	5.23E-16	6.97E-09	6.10E+01
Rh-99m	6.08E-16	8.10E-09	7.09E+01
Rh-100	2.46E-15	3.28E-08	2.87E+02
Rh-100m	5.15E-17	6.86E-10	6.01E+00
Rh-101	2.57E-16	3.42E-09	3.00E+01
Rh-101m	2.65E-16	3.53E-09	3.09E+01
Rh-102	4.94E-16	6.58E-09	5.76E+01
Rh-102m	2.03E-15	2.70E-08	2.37E+02
Rh-103m	8.26E-19	1.10E-11	9.64E-02
Rh-104	1.28E-16	1.70E-09	1.49E+01
Rh-104m	3.43E-17	4.57E-10	4.00E+00
Rh-105	7.38E-17	9.83E-10	8.61E+00
Rh-106	3.46E-16	4.61E-09	4.04E+01
Rh-106m	2.69E-15	3.58E-08	3.14E+02
Rh-107	3.38E-16	4.50E-09	3.94E+01
Rh-108	4.79E-16	6.38E-09	5.59E+01

Nuclide	Ground Shine Dose Rate Coefficient (Sv-m ² /Bq-s)	Ground Shine Dose Rate Coefficient mrem-m ² /pCi-h	Ground Shine Dose Rate Coefficient mrem-m ² /μCi-y
Rh-109	3.91E-16	5.21E-09	4.56E+01
Pd-96	1.38E-15	1.84E-08	1.61E+02
Pd-97	2.26E-15	3.01E-08	2.64E+02
Pd-98	3.82E-16	5.09E-09	4.46E+01
Pd-99	1.24E-15	1.65E-08	1.45E+02
Pd-100	9.98E-17	1.33E-09	1.16E+01
Pd-101	3.21E-16	4.28E-09	3.75E+01
Pd-103	7.66E-18	1.02E-10	8.94E-01
Pd-107	0.00E+00	0.00E+00	0.00E+00
Pd-109	3.72E-17	4.96E-10	4.34E+00
Pd-109m	1.00E-16	1.33E-09	1.17E+01
Pd-111	1.46E-16	1.94E-09	1.70E+01
Pd-112	2.22E-18	2.96E-11	2.59E-01
Pd-114	8.36E-17	1.11E-09	9.75E+00
Ag-99	2.28E-15	3.04E-08	2.66E+02
Ag-100m	2.81E-15	3.74E-08	3.28E+02
Ag-101	1.57E-15	2.09E-08	1.83E+02
Ag-102	3.24E-15	4.32E-08	3.78E+02
Ag-102m	1.81E-15	2.41E-08	2.11E+02
Ag-103	8.05E-16	1.07E-08	9.39E+01
Ag-104	2.54E-15	3.38E-08	2.96E+02
Ag-104m	1.74E-15	2.32E-08	2.03E+02
Ag-105	4.78E-16	6.37E-09	5.58E+01
Ag-105m	9.60E-19	1.28E-11	1.12E-01
Ag-106	7.28E-16	9.70E-09	8.49E+01
Ag-106m	2.63E-15	3.50E-08	3.07E+02
Ag-108	8.98E-17	1.20E-09	1.05E+01
Ag-108m	1.54E-15	2.05E-08	1.80E+02
Ag-109m	7.41E-18	9.87E-11	8.65E-01
Ag-110	1.63E-16	2.17E-09	1.90E+01
Ag-110m	2.59E-15	3.45E-08	3.02E+02
Ag-111	5.29E-17	7.05E-10	6.17E+00
Ag-111m	5.79E-18	7.71E-11	6.76E-01
Ag-112	7.72E-16	1.03E-08	9.01E+01
Ag-113	1.59E-16	2.12E-09	1.86E+01
Ag-113m	2.23E-16	2.97E-09	2.60E+01
Ag-114	4.31E-16	5.74E-09	5.03E+01
Ag-115	5.54E-16	7.38E-09	6.46E+01
Ag-116	2.07E-15	2.76E-08	2.42E+02

Nuclide	Ground Shine Dose Rate Coefficient (Sv-m ² /Bq-s)	Ground Shine Dose Rate Coefficient mrem-m ² /pCi-h	Ground Shine Dose Rate Coefficient mrem-m ² /μCi-y
Ag-117	1.28E-15	1.70E-08	1.49E+02
Cd-101	2.39E-15	3.18E-08	2.79E+02
Cd-102	7.91E-16	1.05E-08	9.23E+01
Cd-103	1.91E-15	2.54E-08	2.23E+02
Cd-104	2.29E-16	3.05E-09	2.67E+01
Cd-105	1.20E-15	1.60E-08	1.40E+02
Cd-107	2.28E-17	3.04E-10	2.66E+00
Cd-109	1.65E-17	2.20E-10	1.93E+00
Cd-111m	2.60E-16	3.46E-09	3.03E+01
Cd-113	5.74E-20	7.65E-13	6.70E-03
Cd-113m	1.78E-18	2.37E-11	2.08E-01
Cd-115	2.07E-16	2.76E-09	2.42E+01
Cd-115m	1.02E-16	1.36E-09	1.19E+01
Cd-117	1.03E-15	1.37E-08	1.20E+02
Cd-117m	1.84E-15	2.45E-08	2.15E+02
Cd-118	5.80E-19	7.73E-12	6.77E-02
Cd-119	1.56E-15	2.08E-08	1.82E+02
Cd-119m	2.15E-15	2.86E-08	2.51E+02
In-103	2.67E-15	3.56E-08	3.12E+02
In-105	1.90E-15	2.53E-08	2.22E+02
In-106m	2.73E-15	3.64E-08	3.19E+02
In-106	3.47E-15	4.62E-08	4.05E+02
In-107	1.43E-15	1.90E-08	1.67E+02
In-108m	2.52E-15	3.36E-08	2.94E+02
In-108	3.66E-15	4.88E-08	4.27E+02
In-109m	5.86E-16	7.81E-09	6.84E+01
In-109	5.94E-16	7.91E-09	6.93E+01
In-110m	1.55E-15	2.06E-08	1.81E+02
In-110	2.92E-15	3.89E-08	3.41E+02
In-111m	4.56E-16	6.07E-09	5.32E+01
In-111	3.69E-16	4.92E-09	4.31E+01
In-112m	2.80E-17	3.73E-10	3.27E+00
In-112	2.74E-16	3.65E-09	3.20E+01
In-113m	2.46E-16	3.28E-09	2.87E+01
In-114m	7.28E-17	9.70E-10	8.49E+00
In-114	9.64E-17	1.28E-09	1.12E+01
In-115m	1.52E-16	2.02E-09	1.77E+01
In-115	3.74E-19	4.98E-12	4.36E-02
In-116m	2.27E-15	3.02E-08	2.65E+02

Nuclide	Ground Shine Dose Rate Coefficient (Sv-m²/Bq-s)	Ground Shine Dose Rate Coefficient mrem-m²/pCi-h	Ground Shine Dose Rate Coefficient mrem-m²/μCi-y
In-117m	1.25E-16	1.67E-09	1.46E+01
In-117	6.65E-16	8.86E-09	7.76E+01
In-118m	2.65E-15	3.53E-08	3.09E+02
In-118	2.52E-16	3.36E-09	2.94E+01
In-119m	1.77E-16	2.36E-09	2.07E+01
In-119	7.99E-16	1.06E-08	9.32E+01
In-121m	2.12E-16	2.82E-09	2.47E+01
In-121	9.89E-16	1.32E-08	1.15E+02
Sn-106	1.14E-15	1.52E-08	1.33E+02
Sn-108	6.40E-16	8.52E-09	7.47E+01
Sn-109	1.99E-15	2.65E-08	2.32E+02
Sn-110	2.68E-16	3.57E-09	3.13E+01
Sn-111	4.78E-16	6.37E-09	5.58E+01
Sn-113m	9.32E-18	1.24E-10	1.09E+00
Sn-113	1.70E-17	2.26E-10	1.98E+00
Sn-117m	1.40E-16	1.86E-09	1.63E+01
Sn-119m	9.81E-18	1.31E-10	1.14E+00
Sn-121m	3.65E-18	4.86E-11	4.26E-01
Sn-121	9.05E-20	1.21E-12	1.06E-02
Sn-123m	1.75E-16	2.33E-09	2.04E+01
Sn-123	6.55E-17	8.72E-10	7.64E+00
Sn-125m	4.23E-16	5.63E-09	4.94E+01
Sn-125	4.01E-16	5.34E-09	4.68E+01
Sn-126	4.82E-17	6.42E-10	5.62E+00
Sn-127m	6.65E-16	8.86E-09	7.76E+01
Sn-127	1.80E-15	2.40E-08	2.10E+02
Sn-128	5.67E-16	7.55E-09	6.62E+01
Sn-129	1.08E-15	1.44E-08	1.26E+02
Sn-130m	9.64E-16	1.28E-08	1.12E+02
Sn-130	9.19E-16	1.22E-08	1.07E+02
Sb-111	1.55E-15	2.06E-08	1.81E+02
Sb-113	1.29E-15	1.72E-08	1.51E+02
Sb-114	2.61E-15	3.48E-08	3.05E+02
Sb-115	8.72E-16	1.16E-08	1.02E+02
Sb-116	2.15E-15	2.86E-08	2.51E+02
Sb-116m	2.89E-15	3.85E-08	3.37E+02
Sb-117	1.66E-16	2.21E-09	1.94E+01
Sb-118	8.67E-16	1.15E-08	1.01E+02
Sb-118m	2.41E-15	3.21E-08	2.81E+02

Nuclide	Ground Shine Dose Rate Coefficient (Sv-m ² /Bq-s)	Ground Shine Dose Rate Coefficient mrem-m ² /pCi-h	Ground Shine Dose Rate Coefficient mrem-m ² /μCi-y
Sb-119	1.56E-17	2.08E-10	1.82E+00
Sb-120	4.67E-16	6.22E-09	5.45E+01
Sb-120m	2.28E-15	3.04E-08	2.66E+02
Sb-122	4.88E-16	6.50E-09	5.69E+01
Sb-122m	5.88E-17	7.83E-10	6.86E+00
Sb-124	1.73E-15	2.30E-08	2.02E+02
Sb-124m	4.30E-16	5.73E-09	5.02E+01
Sb-124n	5.69E-22	7.58E-15	6.64E-05
Sb-125	4.14E-16	5.51E-09	4.83E+01
Sb-126	2.65E-15	3.53E-08	3.09E+02
Sb-126m	1.55E-15	2.06E-08	1.81E+02
Sb-127	6.80E-16	9.06E-09	7.93E+01
Sb-128	2.98E-15	3.97E-08	3.48E+02
Sb-128m	1.92E-15	2.56E-08	2.24E+02
Sb-129	1.39E-15	1.85E-08	1.62E+02
Sb-130	3.15E-15	4.20E-08	3.68E+02
Sb-130m	2.66E-15	3.54E-08	3.10E+02
Sb-131	1.96E-15	2.61E-08	2.29E+02
Sb-133	2.54E-15	3.38E-08	2.96E+02
Te-113	2.22E-15	2.96E-08	2.59E+02
Te-114	1.18E-15	1.57E-08	1.38E+02
Te-115	2.18E-15	2.90E-08	2.54E+02
Te-115m	2.48E-15	3.30E-08	2.89E+02
Te-116	9.70E-17	1.29E-09	1.13E+01
Te-117	1.45E-15	1.93E-08	1.69E+02
Te-118	1.42E-17	1.89E-10	1.66E+00
Te-119	7.21E-16	9.60E-09	8.41E+01
Te-119m	1.38E-15	1.84E-08	1.61E+02
Te-121	5.47E-16	7.29E-09	6.38E+01
Te-121m	1.98E-16	2.64E-09	2.31E+01
Te-123	2.47E-20	3.29E-13	2.88E-03
Te-123m	1.32E-16	1.76E-09	1.54E+01
Te-125m	2.68E-17	3.57E-10	3.13E+00
Te-127	1.05E-17	1.40E-10	1.23E+00
Te-127m	8.54E-18	1.14E-10	9.96E-01
Te-129	1.16E-16	1.55E-09	1.35E+01
Te-129m	5.83E-17	7.77E-10	6.80E+00
Te-131	4.72E-16	6.29E-09	5.51E+01
Te-131m	1.36E-15	1.81E-08	1.59E+02

Nuclide	Ground Shine Dose Rate Coefficient (Sv-m ² /Bq-s)	Ground Shine Dose Rate Coefficient mrem-m ² /pCi-h	Ground Shine Dose Rate Coefficient mrem-m ² /μCi-y
Te-132	2.13E-16	2.84E-09	2.49E+01
Te-133	1.18E-15	1.57E-08	1.38E+02
Te-133m	1.76E-15	2.34E-08	2.05E+02
Te-134	8.25E-16	1.10E-08	9.63E+01
I-118	2.08E-15	2.77E-08	2.43E+02
I-118m	3.67E-15	4.89E-08	4.28E+02
I-119	9.21E-16	1.23E-08	1.07E+02
I-120	2.52E-15	3.36E-08	2.94E+02
I-120m	3.39E-15	4.52E-08	3.96E+02
I-121	3.75E-16	5.00E-09	4.38E+01
I-122	1.04E-15	1.39E-08	1.21E+02
I-123	1.54E-16	2.05E-09	1.80E+01
I-124	1.05E-15	1.40E-08	1.23E+02
I-125	3.19E-17	4.25E-10	3.72E+00
I-126	4.23E-16	5.63E-09	4.94E+01
I-128	1.54E-16	2.05E-09	1.80E+01
I-129	1.99E-17	2.65E-10	2.32E+00
I-130	2.05E-15	2.73E-08	2.39E+02
I-130m	1.20E-16	1.60E-09	1.40E+01
I-131	3.65E-16	4.86E-09	4.26E+01
I-132	2.18E-15	2.90E-08	2.54E+02
I-132m	3.27E-16	4.36E-09	3.82E+01
I-133	6.22E-16	8.29E-09	7.26E+01
I-134	2.49E-15	3.32E-08	2.91E+02
I-134m	2.69E-16	3.58E-09	3.14E+01
I-135	1.47E-15	1.96E-08	1.72E+02
Xe-120	3.71E-16	4.94E-09	4.33E+01
Xe-121	1.40E-15	1.86E-08	1.63E+02
Xe-122	6.01E-17	8.01E-10	7.01E+00
Xe-123	6.09E-16	8.11E-09	7.11E+01
Xe-125	2.47E-16	3.29E-09	2.88E+01
Xe-127	2.56E-16	3.41E-09	2.99E+01
Xe-127m	1.51E-16	2.01E-09	1.76E+01
Xe-129m	4.17E-17	5.55E-10	4.87E+00
Xe-131m	1.63E-17	2.17E-10	1.90E+00
Xe-133	4.06E-17	5.41E-10	4.74E+00
Xe-133m	3.53E-17	4.70E-10	4.12E+00
Xe-135	2.50E-16	3.33E-09	2.92E+01
Xe-135m	4.15E-16	5.53E-09	4.84E+01

Nuclide	Ground Shine Dose Rate Coefficient (Sv-m ² /Bq-s)	Ground Shine Dose Rate Coefficient mrem-m ² /pCi-h	Ground Shine Dose Rate Coefficient mrem-m ² /μCi-y
Xe-137	3.48E-16	4.64E-09	4.06E+01
Xe-138	1.07E-15	1.43E-08	1.25E+02
Cs-121	1.28E-15	1.70E-08	1.49E+02
Cs-121m	1.25E-15	1.67E-08	1.46E+02
Cs-123	1.13E-15	1.51E-08	1.32E+02
Cs-124	1.28E-15	1.70E-08	1.49E+02
Cs-125	7.54E-16	1.00E-08	8.80E+01
Cs-126	1.23E-15	1.64E-08	1.44E+02
Cs-127	4.08E-16	5.43E-09	4.76E+01
Cs-128	9.47E-16	1.26E-08	1.10E+02
Cs-129	2.60E-16	3.46E-09	3.03E+01
Cs-130	5.25E-16	6.99E-09	6.13E+01
Cs-130m	6.26E-17	8.34E-10	7.30E+00
Cs-131	1.80E-17	2.40E-10	2.10E+00
Cs-132	6.77E-16	9.02E-09	7.90E+01
Cs-134	1.48E-15	1.97E-08	1.73E+02
Cs-134m	2.25E-17	3.00E-10	2.63E+00
Cs-135	5.06E-20	6.74E-13	5.90E-03
Cs-135m	1.52E-15	2.02E-08	1.77E+02
Cs-136	1.99E-15	2.65E-08	2.32E+02
Cs-137	3.13E-18	4.17E-11	3.65E-01
Cs-138	2.26E-15	3.01E-08	2.64E+02
Cs-138m	4.07E-16	5.42E-09	4.75E+01
Cs-139	4.33E-16	5.77E-09	5.05E+01
Cs-140	1.74E-15	2.32E-08	2.03E+02
Ba-124	5.53E-16	7.37E-09	6.45E+01
Ba-126	5.40E-16	7.19E-09	6.30E+01
Ba-127	7.54E-16	1.00E-08	8.80E+01
Ba-128	5.86E-17	7.81E-10	6.84E+00
Ba-129	3.23E-16	4.30E-09	3.77E+01
Ba-129m	1.47E-15	1.96E-08	1.72E+02
Ba-131	4.45E-16	5.93E-09	5.19E+01
Ba-131m	6.73E-17	8.96E-10	7.85E+00
Ba-133	3.73E-16	4.97E-09	4.35E+01
Ba-133m	6.08E-17	8.10E-10	7.09E+00
Ba-135m	5.38E-17	7.17E-10	6.28E+00
Ba-137m	5.77E-16	7.69E-09	6.73E+01
Ba-139	1.49E-16	1.98E-09	1.74E+01
Ba-140	1.91E-16	2.54E-09	2.23E+01

Nuclide	Ground Shine Dose Rate Coefficient (Sv-m ² /Bq-s)	Ground Shine Dose Rate Coefficient mrem-m ² /pCi-h	Ground Shine Dose Rate Coefficient mrem-m ² /μCi-y
Ba-141	9.67E-16	1.29E-08	1.13E+02
Ba-142	1.01E-15	1.35E-08	1.18E+02
La-128	2.79E-15	3.72E-08	3.26E+02
La-129	9.41E-16	1.25E-08	1.10E+02
La-130	2.20E-15	2.93E-08	2.57E+02
La-131	6.44E-16	8.58E-09	7.51E+01
La-132	1.89E-15	2.52E-08	2.21E+02
La-132m	6.36E-16	8.47E-09	7.42E+01
La-133	1.51E-16	2.01E-09	1.76E+01
La-134	7.73E-16	1.03E-08	9.02E+01
La-135	3.05E-17	4.06E-10	3.56E+00
La-136	4.22E-16	5.62E-09	4.92E+01
La-137	2.01E-17	2.68E-10	2.35E+00
La-138	1.12E-15	1.49E-08	1.31E+02
La-140	2.15E-15	2.86E-08	2.51E+02
La-141	1.40E-16	1.86E-09	1.63E+01
La-142	2.16E-15	2.88E-08	2.52E+02
La-143	3.76E-16	5.01E-09	4.39E+01
Ce-130	4.65E-16	6.19E-09	5.43E+01
Ce-131	1.58E-15	2.10E-08	1.84E+02
Ce-132	2.49E-16	3.32E-09	2.91E+01
Ce-133	5.49E-16	7.31E-09	6.41E+01
Ce-133m	1.61E-15	2.14E-08	1.88E+02
Ce-134	2.30E-17	3.06E-10	2.68E+00
Ce-135	7.75E-16	1.03E-08	9.04E+01
Ce-137	3.25E-17	4.33E-10	3.79E+00
Ce-137m	4.97E-17	6.62E-10	5.80E+00
Ce-139	1.43E-16	1.90E-09	1.67E+01
Ce-141	6.97E-17	9.28E-10	8.13E+00
Ce-143	2.99E-16	3.98E-09	3.49E+01
Ce-144	1.73E-17	2.30E-10	2.02E+00
Ce-145	8.40E-16	1.12E-08	9.80E+01
Pr-134	3.08E-15	4.10E-08	3.59E+02
Pr-134m	2.29E-15	3.05E-08	2.67E+02
Pr-135	8.87E-16	1.18E-08	1.03E+02
Pr-136	2.08E-15	2.77E-08	2.43E+02
Pr-137	3.71E-16	4.94E-09	4.33E+01
Pr-138	9.00E-16	1.20E-08	1.05E+02
Pr-138m	2.35E-15	3.13E-08	2.74E+02

Nuclide	Ground Shine Dose Rate Coefficient (Sv-m ² /Bq-s)	Ground Shine Dose Rate Coefficient mrem-m ² /pCi-h	Ground Shine Dose Rate Coefficient mrem-m ² /μCi-y
Pr-139	1.24E-16	1.65E-09	1.45E+01
Pr-140	5.86E-16	7.81E-09	6.84E+01
Pr-142	1.47E-16	1.96E-09	1.72E+01
Pr-142m	0.00E+00	0.00E+00	0.00E+00
Pr-143	2.08E-17	2.77E-10	2.43E+00
Pr-144	1.61E-16	2.14E-09	1.88E+01
Pr-144m	1.09E-17	1.45E-10	1.27E+00
Pr-145	9.87E-17	1.31E-09	1.15E+01
Pr-146	1.06E-15	1.41E-08	1.24E+02
Pr-147	5.50E-16	7.33E-09	6.42E+01
Pr-148	1.07E-15	1.43E-08	1.25E+02
Pr-148m	1.05E-15	1.40E-08	1.23E+02
Nd-134	5.25E-16	6.99E-09	6.13E+01
Nd-135	1.30E-15	1.73E-08	1.52E+02
Nd-136	2.59E-16	3.45E-09	3.02E+01
Nd-137	1.13E-15	1.51E-08	1.32E+02
Nd-138	3.80E-17	5.06E-10	4.43E+00
Nd-139	4.43E-16	5.90E-09	5.17E+01
Nd-139m	1.48E-15	1.97E-08	1.73E+02
Nd-140	2.39E-17	3.18E-10	2.79E+00
Nd-141	6.94E-17	9.24E-10	8.10E+00
Nd-141m	6.68E-16	8.90E-09	7.79E+01
Nd-144	0.00E+00	0.00E+00	0.00E+00
Nd-147	1.40E-16	1.86E-09	1.63E+01
Nd-149	3.94E-16	5.25E-09	4.60E+01
Nd-151	8.56E-16	1.14E-08	9.99E+01
Nd-152	1.75E-16	2.33E-09	2.04E+01
Pm-136	2.77E-15	3.69E-08	3.23E+02
Pm-137m	1.79E-15	2.38E-08	2.09E+02
Pm-139	9.99E-16	1.33E-08	1.17E+02
Pm-140	1.18E-15	1.57E-08	1.38E+02
Pm-140m	2.97E-15	3.96E-08	3.47E+02
Pm-141	7.60E-16	1.01E-08	8.87E+01
Pm-142	9.46E-16	1.26E-08	1.10E+02
Pm-143	2.97E-16	3.96E-09	3.47E+01
Pm-144	1.49E-15	1.98E-08	1.74E+02
Pm-145	2.64E-17	3.52E-10	3.08E+00
Pm-146	7.17E-16	9.55E-09	8.37E+01
Pm-147	2.81E-20	3.74E-13	3.28E-03

Nuclide	Ground Shine Dose Rate Coefficient (Sv-m²/Bq-s)	Ground Shine Dose Rate Coefficient mrem-m²/pCi-h	Ground Shine Dose Rate Coefficient mrem-m²/μCi-y
Pm-148	6.11E-16	8.14E-09	7.13E+01
Pm-148m	1.90E-15	2.53E-08	2.22E+02
Pm-149	4.14E-17	5.51E-10	4.83E+00
Pm-150	1.44E-15	1.92E-08	1.68E+02
Pm-151	3.25E-16	4.33E-09	3.79E+01
Pm-152	4.04E-16	5.38E-09	4.71E+01
Pm-152m	1.50E-15	2.00E-08	1.75E+02
Pm-153	1.48E-16	1.97E-09	1.73E+01
Pm-154	1.70E-15	2.26E-08	1.98E+02
Pm-154m	1.75E-15	2.33E-08	2.04E+02
Sm-139	1.48E-15	1.97E-08	1.73E+02
Sm-140	5.47E-16	7.29E-09	6.38E+01
Sm-141	1.40E-15	1.86E-08	1.63E+02
Sm-141m	1.86E-15	2.48E-08	2.17E+02
Sm-142	1.06E-16	1.41E-09	1.24E+01
Sm-143	5.61E-16	7.47E-09	6.55E+01
Sm-143m	6.60E-16	8.79E-09	7.70E+01
Sm-145	5.46E-17	7.27E-10	6.37E+00
Sm-146	0.00E+00	0.00E+00	0.00E+00
Sm-147	0.00E+00	0.00E+00	0.00E+00
Sm-148	0.00E+00	0.00E+00	0.00E+00
Sm-151	3.81E-21	5.07E-14	4.45E-04
Sm-153	6.25E-17	8.33E-10	7.29E+00
Sm-155	1.55E-16	2.06E-09	1.81E+01
Sm-156	1.07E-16	1.43E-09	1.25E+01
Sm-157	4.83E-16	6.43E-09	5.64E+01
Eu-142	1.36E-15	1.81E-08	1.59E+02
Eu-142m	3.40E-15	4.53E-08	3.97E+02
Eu-143	1.18E-15	1.57E-08	1.38E+02
Eu-144	1.21E-15	1.61E-08	1.41E+02
Eu-145	1.18E-15	1.57E-08	1.38E+02
Eu-146	2.24E-15	2.98E-08	2.61E+02
Eu-147	4.38E-16	5.83E-09	5.11E+01
Eu-148	2.10E-15	2.80E-08	2.45E+02
Eu-149	5.85E-17	7.79E-10	6.83E+00
Eu-150	1.47E-15	1.96E-08	1.72E+02
Eu-150m	7.01E-17	9.34E-10	8.18E+00
Eu-152	1.09E-15	1.45E-08	1.27E+02
Eu-152m	3.36E-16	4.48E-09	3.92E+01

Nuclide	Ground Shine Dose Rate Coefficient (Sv-m²/Bq-s)	Ground Shine Dose Rate Coefficient mrem-m²/pCi-h	Ground Shine Dose Rate Coefficient mrem-m²/μCi-y
Eu-152n	6.50E-17	8.66E-10	7.58E+00
Eu-154	1.17E-15	1.56E-08	1.37E+02
Eu-154m	5.98E-17	7.97E-10	6.98E+00
Eu-155	5.39E-17	7.18E-10	6.29E+00
Eu-156	1.16E-15	1.55E-08	1.35E+02
Eu-157	3.05E-16	4.06E-09	3.56E+01
Eu-158	1.30E-15	1.73E-08	1.52E+02
Eu-159	3.80E-16	5.06E-09	4.43E+01
Gd-142	1.06E-15	1.41E-08	1.24E+02
Gd-143m	2.10E-15	2.80E-08	2.45E+02
Gd-144	8.98E-16	1.20E-08	1.05E+02
Gd-145	2.19E-15	2.92E-08	2.56E+02
Gd-145m	6.67E-16	8.88E-09	7.78E+01
Gd-146	2.24E-16	2.98E-09	2.61E+01
Gd-147	1.31E-15	1.74E-08	1.53E+02
Gd-148	0.00E+00	0.00E+00	0.00E+00
Gd-149	4.94E-16	6.58E-09	5.76E+01
Gd-150	0.00E+00	0.00E+00	0.00E+00
Gd-151	6.17E-17	8.22E-10	7.20E+00
Gd-152	0.00E+00	0.00E+00	0.00E+00
Gd-153	9.21E-17	1.23E-09	1.07E+01
Gd-159	6.97E-17	9.28E-10	8.13E+00
Gd-162	4.18E-16	5.57E-09	4.88E+01
Tb-146	3.42E-15	4.56E-08	3.99E+02
Tb-147	2.05E-15	2.73E-08	2.39E+02
Tb-147m	1.77E-15	2.36E-08	2.07E+02
Tb-148	2.26E-15	3.01E-08	2.64E+02
Tb-148m	3.00E-15	4.00E-08	3.50E+02
Tb-149	1.26E-15	1.68E-08	1.47E+02
Tb-149m	1.33E-15	1.77E-08	1.55E+02
Tb-150	2.21E-15	2.94E-08	2.58E+02
Tb-150m	2.41E-15	3.21E-08	2.81E+02
Tb-151	9.31E-16	1.24E-08	1.09E+02
Tb-151m	7.30E-17	9.72E-10	8.52E+00
Tb-152	1.39E-15	1.85E-08	1.62E+02
Tb-152m	7.14E-16	9.51E-09	8.33E+01
Tb-153	3.05E-16	4.06E-09	3.56E+01
Tb-154	2.02E-15	2.69E-08	2.36E+02
Tb-155	1.59E-16	2.12E-09	1.86E+01

Nuclide	Ground Shine Dose Rate Coefficient (Sv-m²/Bq-s)	Ground Shine Dose Rate Coefficient mrem-m²/pCi-h	Ground Shine Dose Rate Coefficient mrem-m²/μCi-y
Tb-156	1.79E-15	2.38E-08	2.09E+02
Tb-156m	3.27E-17	4.36E-10	3.82E+00
Tb-156n	3.21E-18	4.28E-11	3.75E-01
Tb-157	4.04E-18	5.38E-11	4.71E-01
Tb-158	7.53E-16	1.00E-08	8.79E+01
Tb-160	1.06E-15	1.41E-08	1.24E+02
Tb-161	3.03E-17	4.04E-10	3.54E+00
Tb-162	1.09E-15	1.45E-08	1.27E+02
Tb-163	7.74E-16	1.03E-08	9.03E+01
Tb-164	2.35E-15	3.13E-08	2.74E+02
Tb-165	8.64E-16	1.15E-08	1.01E+02
Dy-148	6.81E-16	9.07E-09	7.95E+01
Dy-149	1.49E-15	1.98E-08	1.74E+02
Dy-150	2.63E-16	3.50E-09	3.07E+01
Dy-151	1.27E-15	1.69E-08	1.48E+02
Dy-152	2.64E-16	3.52E-09	3.08E+01
Dy-153	8.05E-16	1.07E-08	9.39E+01
Dy-154	0.00E+00	0.00E+00	0.00E+00
Dy-155	6.18E-16	8.23E-09	7.21E+01
Dy-157	3.24E-16	4.32E-09	3.78E+01
Dy-159	3.91E-17	5.21E-10	4.56E+00
Dy-165	6.94E-17	9.24E-10	8.10E+00
Dy-165m	1.71E-17	2.28E-10	2.00E+00
Dy-166	3.76E-17	5.01E-10	4.39E+00
Dy-167	5.81E-16	7.74E-09	6.78E+01
Dy-168	4.01E-16	5.34E-09	4.68E+01
Ho-150	1.97E-15	2.62E-08	2.30E+02
Ho-153	1.03E-15	1.37E-08	1.20E+02
Ho-153m	1.07E-15	1.43E-08	1.25E+02
Ho-154	1.88E-15	2.50E-08	2.19E+02
Ho-154m	2.37E-15	3.16E-08	2.77E+02
Ho-155	5.89E-16	7.85E-09	6.87E+01
Ho-156	2.00E-15	2.66E-08	2.33E+02
Ho-157	5.45E-16	7.26E-09	6.36E+01
Ho-159	3.52E-16	4.69E-09	4.11E+01
Ho-160	1.59E-15	2.12E-08	1.86E+02
Ho-161	4.84E-17	6.45E-10	5.65E+00
Ho-162	1.51E-16	2.01E-09	1.76E+01
Ho-162m	5.15E-16	6.86E-09	6.01E+01

Nuclide	Ground Shine Dose Rate Coefficient (Sv-m²/Bq-s)	Ground Shine Dose Rate Coefficient mrem-m²/pCi-h	Ground Shine Dose Rate Coefficient mrem-m²/μCi-y
Ho-163	0.00E+00	0.00E+00	0.00E+00
Ho-164	3.36E-17	4.48E-10	3.92E+00
Ho-164m	3.86E-17	5.14E-10	4.50E+00
Ho-166	1.06E-16	1.41E-09	1.24E+01
Ho-166m	1.53E-15	2.04E-08	1.79E+02
Ho-167	3.52E-16	4.69E-09	4.11E+01
Ho-168	9.17E-16	1.22E-08	1.07E+02
Ho-168m	5.42E-18	7.22E-11	6.32E-01
Ho-170	1.68E-15	2.24E-08	1.96E+02
Er-154	6.72E-17	8.95E-10	7.84E+00
Er-156	5.67E-17	7.55E-10	6.62E+00
Er-159	8.98E-16	1.20E-08	1.05E+02
Er-161	9.25E-16	1.23E-08	1.08E+02
Er-163	3.47E-17	4.62E-10	4.05E+00
Er-165	3.25E-17	4.33E-10	3.79E+00
Er-167m	8.81E-17	1.17E-09	1.03E+01
Er-169	6.98E-20	9.30E-13	8.14E-03
Er-171	3.77E-16	5.02E-09	4.40E+01
Er-172	4.90E-16	6.53E-09	5.72E+01
Er-173	8.47E-16	1.13E-08	9.88E+01
Tm-161	1.19E-15	1.59E-08	1.39E+02
Tm-162	1.78E-15	2.37E-08	2.08E+02
Tm-163	1.20E-15	1.60E-08	1.40E+02
Tm-164	7.84E-16	1.04E-08	9.15E+01
Tm-165	5.23E-16	6.97E-09	6.10E+01
Tm-166	1.79E-15	2.38E-08	2.09E+02
Tm-167	1.33E-16	1.77E-09	1.55E+01
Tm-168	1.17E-15	1.56E-08	1.37E+02
Tm-170	2.49E-17	3.32E-10	2.91E+00
Tm-171	5.31E-19	7.07E-12	6.20E-02
Tm-172	4.84E-16	6.45E-09	5.65E+01
Tm-173	3.86E-16	5.14E-09	4.50E+01
Tm-174	1.70E-15	2.26E-08	1.98E+02
Tm-175	1.07E-15	1.43E-08	1.25E+02
Tm-176	1.87E-15	2.49E-08	2.18E+02
Yb-162	2.30E-16	3.06E-09	2.68E+01
Yb-163	7.04E-16	9.38E-09	8.21E+01
Yb-164	4.77E-17	6.35E-10	5.57E+00
Yb-165	3.13E-16	4.17E-09	3.65E+01

Nuclide	Ground Shine Dose Rate Coefficient (Sv-m ² /Bq-s)	Ground Shine Dose Rate Coefficient mrem-m ² /pCi-h	Ground Shine Dose Rate Coefficient mrem-m ² /μCi-y
Yb-166	7.49E-17	9.98E-10	8.74E+00
Yb-167	2.38E-16	3.17E-09	2.78E+01
Yb-169	2.95E-16	3.93E-09	3.44E+01
Yb-175	3.69E-17	4.92E-10	4.31E+00
Yb-177	2.23E-16	2.97E-09	2.60E+01
Yb-178	3.91E-17	5.21E-10	4.56E+00
Yb-179	1.01E-15	1.35E-08	1.18E+02
Lu-165	1.06E-15	1.41E-08	1.24E+02
Lu-167	1.53E-15	2.04E-08	1.79E+02
Lu-169	1.20E-15	1.60E-08	1.40E+02
Lu-169m	9.37E-21	1.25E-13	1.09E-03
Lu-170	2.26E-15	3.01E-08	2.64E+02
Lu-171	6.07E-16	8.09E-09	7.08E+01
Lu-171m	2.89E-19	3.85E-12	3.37E-02
Lu-172	1.82E-15	2.42E-08	2.12E+02
Lu-172m	4.55E-21	6.06E-14	5.31E-04
Lu-173	1.64E-16	2.18E-09	1.91E+01
Lu-174	1.03E-16	1.37E-09	1.20E+01
Lu-174m	5.20E-17	6.93E-10	6.07E+00
Lu-176	4.47E-16	5.95E-09	5.22E+01
Lu-176m	5.62E-17	7.49E-10	6.56E+00
Lu-177	3.21E-17	4.28E-10	3.75E+00
Lu-177m	9.27E-16	1.23E-08	1.08E+02
Lu-178	2.00E-16	2.66E-09	2.33E+01
Lu-178m	1.01E-15	1.35E-08	1.18E+02
Lu-179	7.96E-17	1.06E-09	9.29E+00
Lu-180	1.46E-15	1.94E-08	1.70E+02
Lu-181	6.29E-16	8.38E-09	7.34E+01
Hf-167	6.39E-16	8.51E-09	7.46E+01
Hf-169	6.22E-16	8.29E-09	7.26E+01
Hf-170	4.09E-16	5.45E-09	4.77E+01
Hf-172	8.91E-17	1.19E-09	1.04E+01
Hf-173	3.63E-16	4.84E-09	4.24E+01
Hf-174	0.00E+00	0.00E+00	0.00E+00
Hf-175	3.29E-16	4.38E-09	3.84E+01
Hf-177m	2.13E-15	2.84E-08	2.49E+02
Hf-178m	2.11E-15	2.81E-08	2.46E+02
Hf-179m	8.60E-16	1.15E-08	1.00E+02
Hf-180m	9.29E-16	1.24E-08	1.08E+02

Nuclide	Ground Shine Dose Rate Coefficient (Sv-m²/Bq-s)	Ground Shine Dose Rate Coefficient mrem-m²/pCi-h	Ground Shine Dose Rate Coefficient mrem-m²/μCi-y
Hf-181	5.02E-16	6.69E-09	5.86E+01
Hf-182	2.23E-16	2.97E-09	2.60E+01
Hf-182m	8.59E-16	1.14E-08	1.00E+02
Hf-183	7.73E-16	1.03E-08	9.02E+01
Hf-184	2.36E-16	3.14E-09	2.75E+01
Ta-170	1.14E-15	1.52E-08	1.33E+02
Ta-172	1.62E-15	2.16E-08	1.89E+02
Ta-173	5.42E-16	7.22E-09	6.32E+01
Ta-174	9.37E-16	1.25E-08	1.09E+02
Ta-175	1.01E-15	1.35E-08	1.18E+02
Ta-176	2.00E-15	2.66E-08	2.33E+02
Ta-177	5.89E-17	7.85E-10	6.87E+00
Ta-178	1.09E-16	1.45E-09	1.27E+01
Ta-178m	1.08E-15	1.44E-08	1.26E+02
Ta-179	2.12E-17	2.82E-10	2.47E+00
Ta-180	4.18E-17	5.57E-10	4.88E+00
Ta-182	1.19E-15	1.59E-08	1.39E+02
Ta-182m	2.37E-16	3.16E-09	2.77E+01
Ta-183	2.70E-16	3.60E-09	3.15E+01
Ta-184	1.51E-15	2.01E-08	1.76E+02
Ta-185	2.15E-16	2.86E-09	2.51E+01
Ta-186	1.45E-15	1.93E-08	1.69E+02
W-177	8.50E-16	1.13E-08	9.92E+01
W-178	1.28E-17	1.70E-10	1.49E+00
W-179	4.54E-17	6.05E-10	5.30E+00
W-179m	4.88E-17	6.50E-10	5.69E+00
W-181	3.40E-17	4.53E-10	3.97E+00
W-185	1.67E-19	2.22E-12	1.95E-02
W-185m	2.15E-17	2.86E-10	2.51E+00
W-187	4.41E-16	5.87E-09	5.15E+01
W-188	1.81E-18	2.41E-11	2.11E-01
W-190	1.54E-16	2.05E-09	1.80E+01
Re-178	1.58E-15	2.10E-08	1.84E+02
Re-179	9.99E-16	1.33E-08	1.17E+02
Re-180	1.13E-15	1.51E-08	1.32E+02
Re-181	7.50E-16	9.99E-09	8.75E+01
Re-182	1.65E-15	2.20E-08	1.93E+02
Re-182m	1.12E-15	1.49E-08	1.31E+02
Re-183	1.37E-16	1.82E-09	1.60E+01

Nuclide	Ground Shine Dose Rate Coefficient (Sv-m ² /Bq-s)	Ground Shine Dose Rate Coefficient mrem-m ² /pCi-h	Ground Shine Dose Rate Coefficient mrem-m ² /μCi-y
Re-184	8.35E-16	1.11E-08	9.74E+01
Re-184m	3.52E-16	4.69E-09	4.11E+01
Re-186	4.34E-17	5.78E-10	5.06E+00
Re-186m	1.31E-17	1.74E-10	1.53E+00
Re-187	0.00E+00	0.00E+00	0.00E+00
Re-188	1.48E-16	1.97E-09	1.73E+01
Re-188m	5.94E-17	7.91E-10	6.93E+00
Re-189	7.14E-17	9.51E-10	8.33E+00
Re-190	1.34E-15	1.78E-08	1.56E+02
Re-190m	9.13E-16	1.22E-08	1.07E+02
Os-180	1.12E-16	1.49E-09	1.31E+01
Os-181	1.27E-15	1.69E-08	1.48E+02
Os-182	4.02E-16	5.35E-09	4.69E+01
Os-183	5.83E-16	7.77E-09	6.80E+01
Os-183m	9.31E-16	1.24E-08	1.09E+02
Os-185	6.54E-16	8.71E-09	7.63E+01
Os-186	0.00E+00	0.00E+00	0.00E+00
Os-189m	4.03E-20	5.37E-13	4.70E-03
Os-190m	1.51E-15	2.01E-08	1.76E+02
Os-191	7.11E-17	9.47E-10	8.30E+00
Os-191m	5.04E-18	6.71E-11	5.88E-01
Os-193	9.02E-17	1.20E-09	1.05E+01
Os-194	2.21E-18	2.94E-11	2.58E-01
Os-196	1.05E-16	1.40E-09	1.23E+01
Ir-180	1.62E-15	2.16E-08	1.89E+02
Ir-182	1.42E-15	1.89E-08	1.66E+02
Ir-183	1.09E-15	1.45E-08	1.27E+02
Ir-184	1.84E-15	2.45E-08	2.15E+02
Ir-185	7.67E-16	1.02E-08	8.95E+01
Ir-186	1.53E-15	2.04E-08	1.79E+02
Ir-186m	1.15E-15	1.53E-08	1.34E+02
Ir-187	3.06E-16	4.08E-09	3.57E+01
Ir-188	1.86E-15	2.48E-08	2.17E+02
Ir-189	6.74E-17	8.98E-10	7.86E+00
Ir-190	1.40E-15	1.86E-08	1.63E+02
Ir-190m	4.43E-20	5.90E-13	5.17E-03
Ir-190n	4.87E-17	6.49E-10	5.68E+00
Ir-191m	6.40E-17	8.52E-10	7.47E+00
Ir-192	7.75E-16	1.03E-08	9.04E+01

Nuclide	Ground Shine Dose Rate Coefficient (Sv-m ² /Bq-s)	Ground Shine Dose Rate Coefficient mrem-m ² /pCi-h	Ground Shine Dose Rate Coefficient mrem-m ² /μCi-y
Ir-192m	2.13E-19	2.84E-12	2.49E-02
Ir-192n	8.49E-19	1.13E-11	9.91E-02
Ir-193m	3.18E-19	4.24E-12	3.71E-02
Ir-194	1.81E-16	2.41E-09	2.11E+01
Ir-194m	2.22E-15	2.96E-08	2.59E+02
Ir-195	7.38E-17	9.83E-10	8.61E+00
Ir-195m	3.60E-16	4.80E-09	4.20E+01
Ir-196	3.48E-16	4.64E-09	4.06E+01
Ir-196m	2.36E-15	3.14E-08	2.75E+02
Pt-184	6.68E-16	8.90E-09	7.79E+01
Pt-186	6.43E-16	8.56E-09	7.50E+01
Pt-187	5.77E-16	7.69E-09	6.73E+01
Pt-188	1.84E-16	2.45E-09	2.15E+01
Pt-189	4.49E-16	5.98E-09	5.24E+01
Pt-190	0.00E+00	0.00E+00	0.00E+00
Pt-191	2.70E-16	3.60E-09	3.15E+01
Pt-193	1.07E-19	1.43E-12	1.25E-02
Pt-193m	9.06E-18	1.21E-10	1.06E+00
Pt-195m	6.20E-17	8.26E-10	7.23E+00
Pt-197	2.42E-17	3.22E-10	2.82E+00
Pt-197m	7.27E-17	9.68E-10	8.48E+00
Pt-199	2.46E-16	3.28E-09	2.87E+01
Pt-200	5.40E-17	7.19E-10	6.30E+00
Pt-202	7.79E-17	1.04E-09	9.09E+00
Au-186	1.50E-15	2.00E-08	1.75E+02
Au-187	9.75E-16	1.30E-08	1.14E+02
Au-190	2.11E-15	2.81E-08	2.46E+02
Au-191	5.54E-16	7.38E-09	6.46E+01
Au-192	1.73E-15	2.30E-08	2.02E+02
Au-193	1.49E-16	1.98E-09	1.74E+01
Au-193m	1.80E-16	2.40E-09	2.10E+01
Au-194	9.45E-16	1.26E-08	1.10E+02
Au-195	6.93E-17	9.23E-10	8.09E+00
Au-195m	1.84E-16	2.45E-09	2.15E+01
Au-196	4.43E-16	5.90E-09	5.17E+01
Au-196m	2.16E-16	2.88E-09	2.52E+01
Au-198	4.05E-16	5.39E-09	4.73E+01
Au-198m	4.82E-16	6.42E-09	5.62E+01
Au-199	8.61E-17	1.15E-09	1.00E+01

Nuclide	Ground Shine Dose Rate Coefficient (Sv-m²/Bq-s)	Ground Shine Dose Rate Coefficient mrem-m²/pCi-h	Ground Shine Dose Rate Coefficient mrem-m²/μCi-y
Au-200	3.37E-16	4.49E-09	3.93E+01
Au-200m	1.88E-15	2.50E-08	2.19E+02
Au-201	7.31E-17	9.74E-10	8.53E+00
Au-202	2.81E-16	3.74E-09	3.28E+01
Hg-190	1.77E-16	2.36E-09	2.07E+01
Hg-191m	1.38E-15	1.84E-08	1.61E+02
Hg-192	2.47E-16	3.29E-09	2.88E+01
Hg-193	7.65E-16	1.02E-08	8.93E+01
Hg-193m	9.48E-16	1.26E-08	1.11E+02
Hg-194	1.62E-19	2.16E-12	1.89E-02
Hg-195	1.81E-16	2.41E-09	2.11E+01
Hg-195m	1.83E-16	2.44E-09	2.14E+01
Hg-197	6.09E-17	8.11E-10	7.11E+00
Hg-197m	8.38E-17	1.12E-09	9.78E+00
Hg-199m	1.64E-16	2.18E-09	1.91E+01
Hg-203	2.22E-16	2.96E-09	2.59E+01
Hg-205	6.56E-17	8.74E-10	7.65E+00
Hg-206	1.49E-16	1.98E-09	1.74E+01
Hg-207	2.49E-15	3.32E-08	2.91E+02
Tl-190	1.36E-15	1.81E-08	1.59E+02
Tl-190m	2.40E-15	3.20E-08	2.80E+02
Tl-194	9.25E-16	1.23E-08	1.08E+02
Tl-194m	2.41E-15	3.21E-08	2.81E+02
Tl-195	1.11E-15	1.48E-08	1.30E+02
Tl-196	1.72E-15	2.29E-08	2.01E+02
Tl-197	4.22E-16	5.62E-09	4.92E+01
Tl-198	1.82E-15	2.42E-08	2.12E+02
Tl-198m	1.15E-15	1.53E-08	1.34E+02
Tl-199	2.29E-16	3.05E-09	2.67E+01
Tl-200	1.22E-15	1.63E-08	1.42E+02
Tl-201	7.93E-17	1.06E-09	9.25E+00
Tl-202	4.37E-16	5.82E-09	5.10E+01
Tl-204	1.09E-17	1.45E-10	1.27E+00
Tl-206	6.12E-17	8.15E-10	7.14E+00
Tl-206m	2.29E-15	3.05E-08	2.67E+02
Tl-207	5.61E-17	7.47E-10	6.55E+00
Tl-208	2.96E-15	3.94E-08	3.45E+02
Tl-209	2.02E-15	2.69E-08	2.36E+02
Tl-210	2.64E-15	3.52E-08	3.08E+02

Nuclide	Ground Shine Dose Rate Coefficient (Sv-m ² /Bq-s)	Ground Shine Dose Rate Coefficient mrem-m ² /pCi-h	Ground Shine Dose Rate Coefficient mrem-m ² /μCi-y
Pb-194	9.95E-16	1.33E-08	1.16E+02
Pb-195m	1.57E-15	2.09E-08	1.83E+02
Pb-196	4.58E-16	6.10E-09	5.34E+01
Pb-197	1.40E-15	1.86E-08	1.63E+02
Pb-197m	1.10E-15	1.47E-08	1.28E+02
Pb-198	4.05E-16	5.39E-09	4.73E+01
Pb-199	9.54E-16	1.27E-08	1.11E+02
Pb-200	1.85E-16	2.46E-09	2.16E+01
Pb-201	7.05E-16	9.39E-09	8.23E+01
Pb-201m	3.79E-16	5.05E-09	4.42E+01
Pb-202	1.88E-19	2.50E-12	2.19E-02
Pb-202m	1.89E-15	2.52E-08	2.21E+02
Pb-203	2.87E-16	3.82E-09	3.35E+01
Pb-204m	1.96E-15	2.61E-08	2.29E+02
Pb-205	1.90E-19	2.53E-12	2.22E-02
Pb-209	3.19E-18	4.25E-11	3.72E-01
Pb-210	2.17E-18	2.89E-11	2.53E-01
Pb-211	1.08E-16	1.44E-09	1.26E+01
Pb-212	1.32E-16	1.76E-09	1.54E+01
Pb-214	2.43E-16	3.24E-09	2.84E+01
Bi-197	1.60E-15	2.13E-08	1.87E+02
Bi-200	2.31E-15	3.08E-08	2.70E+02
Bi-201	1.58E-15	2.10E-08	1.84E+02
Bi-202	2.58E-15	3.44E-08	3.01E+02
Bi-203	2.17E-15	2.89E-08	2.53E+02
Bi-204	2.71E-15	3.61E-08	3.16E+02
Bi-205	1.53E-15	2.04E-08	1.79E+02
Bi-206	3.05E-15	4.06E-08	3.56E+02
Bi-207	1.45E-15	1.93E-08	1.69E+02
Bi-208	2.21E-15	2.94E-08	2.58E+02
Bi-210	3.51E-17	4.68E-10	4.10E+00
Bi-210m	2.44E-16	3.25E-09	2.85E+01
Bi-211	4.45E-17	5.93E-10	5.19E+00
Bi-212	1.54E-16	2.05E-09	1.80E+01
Bi-212n	6.03E-17	8.03E-10	7.04E+00
Bi-213	1.64E-16	2.18E-09	1.91E+01
Bi-214	1.42E-15	1.89E-08	1.66E+02
Bi-215	3.07E-16	4.09E-09	3.58E+01
Bi-216	8.46E-16	1.13E-08	9.87E+01

Nuclide	Ground Shine Dose Rate Coefficient (Sv-m ² /Bq-s)	Ground Shine Dose Rate Coefficient mrem-m ² /pCi-h	Ground Shine Dose Rate Coefficient mrem-m ² /μCi-y
Po-203	1.52E-15	2.02E-08	1.77E+02
Po-204	1.08E-15	1.44E-08	1.26E+02
Po-205	1.47E-15	1.96E-08	1.72E+02
Po-206	1.11E-15	1.48E-08	1.30E+02
Po-207	1.20E-15	1.60E-08	1.40E+02
Po-208	2.00E-20	2.66E-13	2.33E-03
Po-209	5.77E-18	7.69E-11	6.73E-01
Po-210	9.22E-21	1.23E-13	1.08E-03
Po-211	7.76E-18	1.03E-10	9.05E-01
Po-212	0.00E+00	0.00E+00	0.00E+00
Po-212m	6.76E-17	9.00E-10	7.89E+00
Po-213	3.57E-20	4.76E-13	4.17E-03
Po-214	7.87E-20	1.05E-12	9.18E-03
Po-215	1.68E-19	2.24E-12	1.96E-02
Po-216	1.45E-20	1.93E-13	1.69E-03
Po-218	6.65E-24	8.86E-17	7.76E-07
At-204	2.25E-15	3.00E-08	2.63E+02
At-205	1.09E-15	1.45E-08	1.27E+02
At-206	2.36E-15	3.14E-08	2.75E+02
At-207	1.85E-15	2.46E-08	2.16E+02
At-208	2.83E-15	3.77E-08	3.30E+02
At-209	2.15E-15	2.86E-08	2.51E+02
At-210	2.70E-15	3.60E-08	3.15E+02
At-211	3.06E-17	4.08E-10	3.57E+00
At-215	1.63E-19	2.17E-12	1.90E-02
At-216	2.19E-18	2.92E-11	2.56E-01
At-217	2.27E-19	3.02E-12	2.65E-02
At-218	1.25E-19	1.67E-12	1.46E-02
At-219	0.00E+00	0.00E+00	0.00E+00
At-220	5.48E-16	7.30E-09	6.39E+01
Rn-207	9.47E-16	1.26E-08	1.10E+02
Rn-209	1.11E-15	1.48E-08	1.30E+02
Rn-210	5.71E-17	7.61E-10	6.66E+00
Rn-211	1.74E-15	2.32E-08	2.03E+02
Rn-212	3.23E-19	4.30E-12	3.77E-02
Rn-215	0.00E+00	0.00E+00	0.00E+00
Rn-216	0.00E+00	0.00E+00	0.00E+00
Rn-217	0.00E+00	0.00E+00	0.00E+00
Rn-218	7.24E-19	9.64E-12	8.45E-02

Nuclide	Ground Shine Dose Rate Coefficient (Sv-m ² /Bq-s)	Ground Shine Dose Rate Coefficient mrem-m ² /pCi-h	Ground Shine Dose Rate Coefficient mrem-m ² /μCi-y
Rn-219	5.50E-17	7.33E-10	6.42E+00
Rn-220	6.01E-19	8.01E-12	7.01E-02
Rn-222	3.72E-19	4.96E-12	4.34E-02
Rn-223	3.80E-16	5.06E-09	4.43E+01
Fr-212	1.05E-15	1.40E-08	1.23E+02
Fr-219	3.37E-18	4.49E-11	3.93E-01
Fr-220	8.45E-18	1.13E-10	9.86E-01
Fr-221	2.69E-17	3.58E-10	3.14E+00
Fr-222	2.36E-16	3.14E-09	2.75E+01
Fr-223	7.73E-17	1.03E-09	9.02E+00
Fr-224	6.00E-16	7.99E-09	7.00E+01
Fr-227	5.03E-16	6.70E-09	5.87E+01
Ra-219	1.59E-16	2.12E-09	1.86E+01
Ra-220	4.46E-18	5.94E-11	5.20E-01
Ra-221	3.27E-17	4.36E-10	3.82E+00
Ra-222	8.65E-18	1.15E-10	1.01E+00
Ra-223	1.27E-16	1.69E-09	1.48E+01
Ra-224	9.60E-18	1.28E-10	1.12E+00
Ra-225	1.10E-17	1.47E-10	1.28E+00
Ra-226	6.68E-18	8.90E-11	7.79E-01
Ra-227	1.69E-16	2.25E-09	1.97E+01
Ra-228	7.34E-19	9.78E-12	8.56E-02
Ra-230	7.54E-17	1.00E-09	8.80E+00
Ac-223	1.62E-17	2.16E-10	1.89E+00
Ac-224	2.05E-16	2.73E-09	2.39E+01
Ac-225	1.32E-17	1.76E-10	1.54E+00
Ac-226	1.37E-16	1.82E-09	1.60E+01
Ac-227	2.37E-19	3.16E-12	2.77E-02
Ac-228	8.39E-16	1.12E-08	9.79E+01
Ac-230	5.91E-16	7.87E-09	6.90E+01
Ac-231	4.48E-16	5.97E-09	5.23E+01
Ac-232	1.14E-15	1.52E-08	1.33E+02
Ac-233	5.74E-16	7.65E-09	6.70E+01
Th-223	6.36E-17	8.47E-10	7.42E+00
Th-224	2.10E-17	2.80E-10	2.45E+00
Th-226	7.21E-18	9.60E-11	8.41E-01
Th-227	1.15E-16	1.53E-09	1.34E+01
Th-228	2.16E-18	2.88E-11	2.52E-01
Th-229	7.75E-17	1.03E-09	9.04E+00

Nuclide	Ground Shine Dose Rate Coefficient (Sv-m ² /Bq-s)	Ground Shine Dose Rate Coefficient mrem-m ² /pCi-h	Ground Shine Dose Rate Coefficient mrem-m ² /μCi-y
Th-230	6.41E-19	8.54E-12	7.48E-02
Th-231	1.52E-17	2.02E-10	1.77E+00
Th-232	4.53E-19	6.03E-12	5.29E-02
Th-233	6.99E-17	9.31E-10	8.16E+00
Th-234	8.19E-18	1.09E-10	9.56E-01
Th-235	1.30E-16	1.73E-09	1.52E+01
Th-236	5.96E-17	7.94E-10	6.95E+00
Pa-227	1.80E-17	2.40E-10	2.10E+00
Pa-228	1.26E-15	1.68E-08	1.47E+02
Pa-229	5.46E-17	7.27E-10	6.37E+00
Pa-230	6.22E-16	8.29E-09	7.26E+01
Pa-231	3.47E-17	4.62E-10	4.05E+00
Pa-232	8.80E-16	1.17E-08	1.03E+02
Pa-233	2.02E-16	2.69E-09	2.36E+01
Pa-234	1.38E-15	1.84E-08	1.61E+02
Pa-234m	1.12E-16	1.49E-09	1.31E+01
Pa-235	5.05E-17	6.73E-10	5.89E+00
Pa-236	9.20E-16	1.23E-08	1.07E+02
Pa-237	6.40E-16	8.52E-09	7.47E+01
U-227	1.06E-16	1.41E-09	1.24E+01
U-228	3.91E-18	5.21E-11	4.56E-01
U-230	1.52E-18	2.02E-11	1.77E-01
U-231	6.67E-17	8.88E-10	7.78E+00
U-232	7.30E-19	9.72E-12	8.52E-02
U-233	4.76E-19	6.34E-12	5.55E-02
U-234	5.80E-19	7.73E-12	6.77E-02
U-235	1.49E-16	1.98E-09	1.74E+01
U-235m	0.00E+00	0.00E+00	0.00E+00
U-236	4.82E-19	6.42E-12	5.62E-02
U-237	1.23E-16	1.64E-09	1.44E+01
U-238	3.91E-19	5.21E-12	4.56E-02
U-239	8.15E-17	1.09E-09	9.51E+00
U-240	5.59E-18	7.45E-11	6.52E-01
U-242	7.21E-17	9.60E-10	8.41E+00
Np-232	1.12E-15	1.49E-08	1.31E+02
Np-233	7.72E-17	1.03E-09	9.01E+00
Np-234	9.99E-16	1.33E-08	1.17E+02
Np-235	2.16E-18	2.88E-11	2.52E-01
Np-236	1.28E-16	1.70E-09	1.49E+01

Nuclide	Ground Shine Dose Rate Coefficient (Sv-m²/Bq-s)	Ground Shine Dose Rate Coefficient mrem-m²/pCi-h	Ground Shine Dose Rate Coefficient mrem-m²/μCi-y
Np-236m	4.32E-17	5.75E-10	5.04E+00
Np-237	2.44E-17	3.25E-10	2.85E+00
Np-238	5.63E-16	7.50E-09	6.57E+01
Np-239	1.62E-16	2.16E-09	1.89E+01
Np-240	1.00E-15	1.33E-08	1.17E+02
Np-240m	3.75E-16	5.00E-09	4.38E+01
Np-241	7.28E-17	9.70E-10	8.49E+00
Np-242	3.44E-16	4.58E-09	4.01E+01
Np-242m	9.19E-16	1.22E-08	1.07E+02
Pu-232	5.31E-17	7.07E-10	6.20E+00
Pu-234	5.77E-17	7.69E-10	6.73E+00
Pu-235	7.98E-17	1.06E-09	9.31E+00
Pu-236	6.69E-19	8.91E-12	7.81E-02
Pu-237	4.27E-17	5.69E-10	4.98E+00
Pu-238	5.99E-19	7.98E-12	6.99E-02
Pu-239	3.06E-19	4.08E-12	3.57E-02
Pu-240	5.68E-19	7.57E-12	6.63E-02
Pu-241	1.43E-21	1.90E-14	1.67E-04
Pu-242	5.56E-19	7.41E-12	6.49E-02
Pu-243	2.27E-17	3.02E-10	2.65E+00
Pu-244	1.92E-17	2.56E-10	2.24E+00
Pu-245	3.91E-16	5.21E-09	4.56E+01
Pu-246	1.25E-16	1.67E-09	1.46E+01
Am-237	3.38E-16	4.50E-09	3.94E+01
Am-238	8.34E-16	1.11E-08	9.73E+01
Am-239	2.09E-16	2.78E-09	2.44E+01
Am-240	9.60E-16	1.28E-08	1.12E+02
Am-241	2.18E-17	2.90E-10	2.54E+00
Am-242	1.61E-17	2.14E-10	1.88E+00
Am-242m	2.07E-18	2.76E-11	2.42E-01
Am-243	4.96E-17	6.61E-10	5.79E+00
Am-244	7.55E-16	1.01E-08	8.81E+01
Am-244m	7.01E-17	9.34E-10	8.18E+00
Am-245	4.10E-17	5.46E-10	4.78E+00
Am-246	7.28E-16	9.70E-09	8.49E+01
Am-246m	9.59E-16	1.28E-08	1.12E+02
Am-247	1.69E-16	2.25E-09	1.97E+01
Cm-238	6.98E-17	9.30E-10	8.14E+00
Cm-239	2.30E-16	3.06E-09	2.68E+01

Nuclide	Ground Shine Dose Rate Coefficient (Sv-m²/Bq-s)	Ground Shine Dose Rate Coefficient mrem-m²/pCi-h	Ground Shine Dose Rate Coefficient mrem-m²/μCi-y
Cm-240	7.49E-19	9.98E-12	8.74E-02
Cm-241	4.64E-16	6.18E-09	5.41E+01
Cm-242	6.68E-19	8.90E-12	7.79E-02
Cm-243	1.18E-16	1.57E-09	1.38E+01
Cm-244	5.85E-19	7.79E-12	6.83E-02
Cm-245	9.11E-17	1.21E-09	1.06E+01
Cm-246	3.87E-18	5.15E-11	4.52E-01
Cm-247	2.98E-16	3.97E-09	3.48E+01
Cm-248	1.25E-15	1.67E-08	1.46E+02
Cm-249	3.30E-17	4.40E-10	3.85E+00
Cm-250	1.27E-14	1.69E-07	1.48E+03
Cm-251	1.47E-16	1.96E-09	1.72E+01
Bk-245	2.06E-16	2.74E-09	2.40E+01
Bk-246	7.93E-16	1.06E-08	9.25E+01
Bk-247	1.32E-16	1.76E-09	1.54E+01
Bk-248m	5.75E-17	7.66E-10	6.71E+00
Bk-249	5.67E-21	7.55E-14	6.62E-04
Bk-250	8.52E-16	1.13E-08	9.94E+01
Bk-251	9.39E-17	1.25E-09	1.10E+01
Cf-244	7.62E-19	1.01E-11	8.89E-02
Cf-246	5.65E-19	7.53E-12	6.59E-02
Cf-247	8.45E-17	1.13E-09	9.86E+00
Cf-248	9.49E-19	1.26E-11	1.11E-01
Cf-249	3.08E-16	4.10E-09	3.59E+01
Cf-250	9.75E-18	1.30E-10	1.14E+00
Cf-251	1.07E-16	1.43E-09	1.25E+01
Cf-252	4.32E-16	5.75E-09	5.04E+01
Cf-253	2.12E-18	2.82E-11	2.47E-01
Cf-254	1.60E-14	2.13E-07	1.87E+03
Cf-255	5.78E-18	7.70E-11	6.74E-01
Es-249	3.80E-16	5.06E-09	4.43E+01
Es-250	1.12E-15	1.49E-08	1.31E+02
Es-250m	5.08E-16	6.77E-09	5.93E+01
Es-251	8.31E-17	1.11E-09	9.70E+00
Es-253	5.00E-19	6.66E-12	5.83E-02
Es-254	8.85E-18	1.18E-10	1.03E+00
Es-254m	4.59E-16	6.11E-09	5.36E+01
Es-255	6.83E-19	9.10E-12	7.97E-02
Es-256	6.66E-17	8.87E-10	7.77E+00

Nuclide	Ground Shine Dose Rate Coefficient (Sv-m²/Bq-s)	Ground Shine Dose Rate Coefficient mrem-m²/pCi-h	Ground Shine Dose Rate Coefficient mrem-m²/μCi-y
Fm-251	1.40E-16	1.86E-09	1.63E+01
Fm-252	8.98E-19	1.20E-11	1.05E-01
Fm-253	5.61E-17	7.47E-10	6.55E+00
Fm-254	7.25E-18	9.66E-11	8.46E-01
Fm-255	7.16E-18	9.54E-11	8.35E-01
Fm-256	1.17E-14	1.56E-07	1.37E+03
Fm-257	1.32E-16	1.76E-09	1.54E+01

APPENDIX D**DERIVED CONCENTRATION STANDARDS**

The data in Appendix D are the 95th percentile and 50th percentile DCS for ingestion, inhalation, submersion in air and water, and ground shine for the reference person. These DCS were calculated from the dose coefficients from Derived Concentration Standard report and in the DC_PACK3 toolbox, and the reference person intake values.

Table D-1. 95th Percentile Ingestion DCS

95%												
Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
H-3	5.92E+04	1.60E+06	5.88E+05	1.59E+07	1.82E+05	4.93E+06	2.16E+06	5.85E+07	5.95E+06	1.61E+08	1.47E+05	1.61E+08
Be-7	3.57E+04	9.66E+05	3.55E+05	9.59E+06	1.10E+05	2.98E+06	1.31E+06	3.53E+07	3.59E+06	9.71E+07	8.87E+04	9.71E+07
Be-10	7.97E+02	2.15E+04	7.91E+03	2.14E+05	2.46E+03	6.64E+04	2.91E+04	7.88E+05	8.01E+04	2.17E+06	1.98E+03	2.17E+06
C-11	4.01E+04	1.08E+06	3.98E+05	1.08E+07	1.24E+05	3.34E+06	1.47E+06	3.96E+07	4.03E+06	1.09E+08	9.96E+04	1.09E+08
C-14	1.96E+03	5.31E+04	1.95E+04	5.27E+05	6.05E+03	1.64E+05	7.18E+04	1.94E+06	1.97E+05	5.34E+06	4.88E+03	5.34E+06
F-18	1.99E+04	5.39E+05	1.98E+05	5.35E+06	6.14E+04	1.66E+06	7.28E+05	1.97E+07	2.00E+06	5.41E+07	4.95E+04	5.41E+07
Na-22	3.21E+02	8.66E+03	3.18E+03	8.60E+04	9.87E+02	2.67E+04	1.17E+04	3.17E+05	3.22E+04	8.71E+05	7.95E+02	8.71E+05
Na-24	2.28E+03	6.16E+04	2.26E+04	6.11E+05	7.02E+03	1.90E+05	8.33E+04	2.25E+06	2.29E+05	6.19E+06	5.65E+03	6.19E+06
Mg-28	4.41E+02	1.19E+04	4.38E+03	1.18E+05	1.36E+03	3.67E+04	1.61E+04	4.36E+05	4.43E+04	1.20E+06	1.09E+03	1.20E+06
Al-26	2.71E+02	7.32E+03	2.69E+03	7.27E+04	8.35E+02	2.26E+04	9.90E+03	2.68E+05	2.72E+04	7.36E+05	6.72E+02	7.36E+05
Si-31	5.84E+03	1.58E+05	5.80E+04	1.57E+06	1.80E+04	4.86E+05	2.13E+05	5.77E+06	5.87E+05	1.59E+07	1.45E+04	1.59E+07
Si-32	1.56E+03	4.21E+04	1.55E+04	4.18E+05	4.80E+03	1.30E+05	5.69E+04	1.54E+06	1.56E+05	4.23E+06	3.86E+03	4.23E+06
P-32	3.67E+02	9.92E+03	3.64E+03	9.84E+04	1.13E+03	3.05E+04	1.34E+04	3.62E+05	3.69E+04	9.97E+05	9.10E+02	9.97E+05
P-33	3.69E+03	9.97E+04	3.66E+04	9.90E+05	1.14E+04	3.07E+05	1.35E+05	3.65E+06	3.71E+05	1.00E+07	9.16E+03	1.00E+07
S-35	7.15E+03	1.93E+05	7.10E+04	1.92E+06	2.20E+04	5.95E+05	2.61E+05	7.06E+06	7.18E+05	1.94E+07	1.77E+04	1.94E+07
S-38	2.87E+03	7.75E+04	2.84E+04	7.69E+05	8.83E+03	2.39E+05	1.05E+05	2.83E+06	2.88E+05	7.78E+06	7.11E+03	7.78E+06

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
Cl-34m	9.08E+03	2.45E+05	9.01E+04	2.44E+06	2.80E+04	7.56E+05	3.32E+05	8.97E+06	9.12E+05	2.47E+07	2.25E+04	2.47E+07
Cl-36	1.00E+03	2.71E+04	9.96E+03	2.69E+05	3.09E+03	8.35E+04	3.67E+04	9.91E+05	1.01E+05	2.72E+06	2.49E+03	2.72E+06
Cl-38	7.97E+03	2.15E+05	7.91E+04	2.14E+06	2.46E+04	6.64E+05	2.91E+05	7.88E+06	8.01E+05	2.17E+07	1.98E+04	2.17E+07
Cl-39	1.10E+04	2.97E+05	1.09E+05	2.95E+06	3.39E+04	9.16E+05	4.02E+05	1.09E+07	1.11E+06	2.99E+07	2.73E+04	2.99E+07
K-40	1.51E+02	4.09E+03	1.50E+03	4.06E+04	4.66E+02	1.26E+04	5.53E+03	1.49E+05	1.52E+04	4.11E+05	3.75E+02	4.11E+05
K-42	2.11E+03	5.71E+04	2.10E+04	5.66E+05	6.50E+03	1.76E+05	7.72E+04	2.09E+06	2.12E+05	5.74E+06	5.24E+03	5.74E+06
K-43	3.89E+03	1.05E+05	3.86E+04	1.04E+06	1.20E+04	3.24E+05	1.42E+05	3.84E+06	3.91E+05	1.06E+07	9.65E+03	1.06E+07
K-44	1.12E+04	3.03E+05	1.11E+05	3.01E+06	3.45E+04	9.33E+05	4.10E+05	1.11E+07	1.13E+06	3.04E+07	2.78E+04	3.04E+07
K-45	1.92E+04	5.19E+05	1.91E+05	5.15E+06	5.91E+04	1.60E+06	7.01E+05	1.90E+07	1.93E+06	5.21E+07	4.76E+04	5.21E+07
Ca-41	4.20E+03	1.14E+05	4.17E+04	1.13E+06	1.29E+04	3.50E+05	1.54E+05	4.15E+06	4.22E+05	1.14E+07	1.04E+04	1.14E+07
Ca-45	1.20E+03	3.23E+04	1.19E+04	3.21E+05	3.68E+03	9.96E+04	4.37E+04	1.18E+06	1.20E+05	3.25E+06	2.97E+03	3.25E+06
Ca-47	6.07E+02	1.64E+04	6.02E+03	1.63E+05	1.87E+03	5.05E+04	2.22E+04	5.99E+05	6.10E+04	1.65E+06	1.51E+03	1.65E+06
Sc-43	4.27E+03	1.16E+05	4.24E+04	1.15E+06	1.32E+04	3.56E+05	1.56E+05	4.22E+06	4.30E+05	1.16E+07	1.06E+04	1.16E+07
Sc-44	2.64E+03	7.12E+04	2.62E+04	7.07E+05	8.12E+03	2.19E+05	9.63E+04	2.60E+06	2.65E+05	7.16E+06	6.54E+03	7.16E+06
Sc-44m	3.82E+02	1.03E+04	3.79E+03	1.02E+05	1.18E+03	3.18E+04	1.39E+04	3.77E+05	3.83E+04	1.04E+06	9.47E+02	1.04E+06
Sc-46	6.62E+02	1.79E+04	6.57E+03	1.77E+05	2.04E+03	5.51E+04	2.42E+04	6.53E+05	6.65E+04	1.80E+06	1.64E+03	1.80E+06
Sc-47	1.67E+03	4.51E+04	1.65E+04	4.47E+05	5.14E+03	1.39E+05	6.09E+04	1.65E+06	1.68E+05	4.53E+06	4.14E+03	4.53E+06
Sc-48	5.81E+02	1.57E+04	5.77E+03	1.56E+05	1.79E+03	4.84E+04	2.12E+04	5.74E+05	5.84E+04	1.58E+06	1.44E+03	1.58E+06
Sc-49	1.13E+04	3.06E+05	1.12E+05	3.03E+06	3.48E+04	9.41E+05	4.13E+05	1.12E+07	1.14E+06	3.07E+07	2.81E+04	3.07E+07
Ti-44	1.68E+02	4.54E+03	1.67E+03	4.50E+04	5.17E+02	1.40E+04	6.13E+03	1.66E+05	1.69E+04	4.56E+05	4.17E+02	4.56E+05
Ti-45	6.19E+03	1.67E+05	6.14E+04	1.66E+06	1.91E+04	5.15E+05	2.26E+05	6.11E+06	6.22E+05	1.68E+07	1.54E+04	1.68E+07
V-47	1.49E+04	4.02E+05	1.47E+05	3.99E+06	4.58E+04	1.24E+06	5.43E+05	1.47E+07	1.49E+06	4.04E+07	3.69E+04	4.04E+07
V-48	4.90E+02	1.32E+04	4.86E+03	1.31E+05	1.51E+03	4.08E+04	1.79E+04	4.84E+05	4.92E+04	1.33E+06	1.22E+03	1.33E+06

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
V-49	4.92E+04	1.33E+06	4.88E+05	1.32E+07	1.51E+05	4.09E+06	1.80E+06	4.86E+07	4.94E+06	1.34E+08	1.22E+05	1.34E+08
V-50	3.32E+02	8.96E+03	3.29E+03	8.90E+04	1.02E+03	2.76E+04	1.21E+04	3.28E+05	3.33E+04	9.01E+05	8.23E+02	9.01E+05
Cr-48	5.04E+03	1.36E+05	5.00E+04	1.35E+06	1.55E+04	4.19E+05	1.84E+05	4.97E+06	5.06E+05	1.37E+07	1.25E+04	1.37E+07
Cr-49	1.53E+04	4.13E+05	1.52E+05	4.10E+06	4.71E+04	1.27E+06	5.59E+05	1.51E+07	1.54E+06	4.16E+07	3.80E+04	4.16E+07
Cr-51	2.47E+04	6.68E+05	2.45E+05	6.63E+06	7.62E+04	2.06E+06	9.04E+05	2.44E+07	2.49E+06	6.72E+07	6.14E+04	6.72E+07
Mn-51	1.01E+04	2.73E+05	1.00E+05	2.71E+06	3.11E+04	8.42E+05	3.70E+05	9.99E+06	1.02E+06	2.75E+07	2.51E+04	2.75E+07
Mn-52	5.50E+02	1.49E+04	5.46E+03	1.48E+05	1.70E+03	4.58E+04	2.01E+04	5.44E+05	5.53E+04	1.49E+06	1.37E+03	1.49E+06
Mn-52m	1.36E+04	3.67E+05	1.35E+05	3.64E+06	4.18E+04	1.13E+06	4.96E+05	1.34E+07	1.36E+06	3.68E+07	3.37E+04	3.68E+07
Mn-53	3.00E+04	8.12E+05	2.98E+05	8.06E+06	9.25E+04	2.50E+06	1.10E+06	2.97E+07	3.02E+06	8.16E+07	7.46E+04	8.16E+07
Mn-54	1.40E+03	3.78E+04	1.39E+04	3.75E+05	4.30E+03	1.16E+05	5.11E+04	1.38E+06	1.40E+05	3.80E+06	3.47E+03	3.80E+06
Mn-56	3.65E+03	9.86E+04	3.62E+04	9.78E+05	1.12E+04	3.04E+05	1.33E+05	3.60E+06	3.67E+05	9.91E+06	9.05E+03	9.91E+06
Fe-52	6.80E+02	1.84E+04	6.75E+03	1.82E+05	2.09E+03	5.66E+04	2.48E+04	6.71E+05	6.83E+04	1.85E+06	1.69E+03	1.85E+06
Fe-55	2.26E+03	6.10E+04	2.24E+04	6.06E+05	6.95E+03	1.88E+05	8.25E+04	2.23E+06	2.27E+05	6.13E+06	5.60E+03	6.13E+06
Fe-59	4.54E+02	1.23E+04	4.51E+03	1.22E+05	1.40E+03	3.78E+04	1.66E+04	4.48E+05	4.56E+04	1.23E+06	1.13E+03	1.23E+06
Fe-60	8.40E+00	2.27E+02	8.34E+01	2.25E+03	2.59E+01	7.00E+02	3.07E+02	8.30E+03	8.45E+02	2.28E+04	2.09E+01	2.28E+04
Co-55	9.79E+02	2.65E+04	9.72E+03	2.63E+05	3.02E+03	8.15E+04	3.58E+04	9.67E+05	9.84E+04	2.66E+06	2.43E+03	2.66E+06
Co-56	3.62E+02	9.77E+03	3.59E+03	9.70E+04	1.11E+03	3.01E+04	1.32E+04	3.57E+05	3.63E+04	9.82E+05	8.97E+02	9.82E+05
Co-57	3.97E+03	1.07E+05	3.94E+04	1.07E+06	1.22E+04	3.31E+05	1.45E+05	3.92E+06	3.99E+05	1.08E+07	9.86E+03	1.08E+07
Co-58	1.23E+03	3.33E+04	1.22E+04	3.30E+05	3.79E+03	1.03E+05	4.50E+04	1.22E+06	1.24E+05	3.34E+06	3.06E+03	3.34E+06
Co-58m	4.01E+04	1.08E+06	3.98E+05	1.08E+07	1.24E+05	3.34E+06	1.47E+06	3.96E+07	4.03E+06	1.09E+08	9.96E+04	1.09E+08
Co-60	2.27E+02	6.12E+03	2.25E+03	6.08E+04	6.98E+02	1.89E+04	8.28E+03	2.24E+05	2.28E+04	6.15E+05	5.62E+02	6.15E+05
Co-60m	5.48E+05	1.48E+07	5.44E+06	1.47E+08	1.69E+06	4.56E+07	2.00E+07	5.41E+08	5.51E+07	1.49E+09	1.36E+06	1.49E+09
Co-61	1.24E+04	3.36E+05	1.23E+05	3.34E+06	3.83E+04	1.04E+06	4.55E+05	1.23E+07	1.25E+06	3.38E+07	3.09E+04	3.38E+07

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
Co-62m	1.92E+04	5.19E+05	1.91E+05	5.15E+06	5.91E+04	1.60E+06	7.01E+05	1.90E+07	1.93E+06	5.21E+07	4.76E+04	5.21E+07
Ni-56	1.15E+03	3.11E+04	1.14E+04	3.09E+05	3.55E+03	9.59E+04	4.21E+04	1.14E+06	1.16E+05	3.13E+06	2.86E+03	3.13E+06
Ni-57	1.06E+03	2.87E+04	1.06E+04	2.85E+05	3.27E+03	8.85E+04	3.89E+04	1.05E+06	1.07E+05	2.89E+06	2.64E+03	2.89E+06
Ni-59	1.56E+04	4.22E+05	1.55E+05	4.19E+06	4.81E+04	1.30E+06	5.71E+05	1.54E+07	1.57E+06	4.24E+07	3.88E+04	4.24E+07
Ni-63	6.28E+03	1.70E+05	6.24E+04	1.69E+06	1.94E+04	5.23E+05	2.30E+05	6.20E+06	6.31E+05	1.71E+07	1.56E+04	1.71E+07
Ni-65	5.06E+03	1.37E+05	5.02E+04	1.36E+06	1.56E+04	4.21E+05	1.85E+05	4.99E+06	5.08E+05	1.37E+07	1.25E+04	1.37E+07
Ni-66	3.00E+02	8.10E+03	2.97E+03	8.04E+04	9.23E+02	2.50E+04	1.10E+04	2.96E+05	3.01E+04	8.14E+05	7.44E+02	8.14E+05
Cu-60	1.33E+04	3.60E+05	1.32E+05	3.58E+06	4.11E+04	1.11E+06	4.87E+05	1.32E+07	1.34E+06	3.62E+07	3.31E+04	3.62E+07
Cu-61	8.35E+03	2.26E+05	8.29E+04	2.24E+06	2.57E+04	6.95E+05	3.05E+05	8.24E+06	8.39E+05	2.27E+07	2.07E+04	2.27E+07
Cu-64	7.82E+03	2.11E+05	7.76E+04	2.10E+06	2.41E+04	6.51E+05	2.86E+05	7.73E+06	7.86E+05	2.12E+07	1.94E+04	2.12E+07
Cu-67	2.86E+03	7.73E+04	2.84E+04	7.67E+05	8.81E+03	2.38E+05	1.04E+05	2.82E+06	2.87E+05	7.77E+06	7.10E+03	7.77E+06
Zn-62	1.02E+03	2.76E+04	1.01E+04	2.73E+05	3.14E+03	8.49E+04	3.73E+04	1.01E+06	1.02E+05	2.77E+06	2.53E+03	2.77E+06
Zn-63	1.17E+04	3.17E+05	1.16E+05	3.15E+06	3.61E+04	9.77E+05	4.29E+05	1.16E+07	1.18E+06	3.19E+07	2.91E+04	3.19E+07
Zn-65	2.61E+02	7.05E+03	2.59E+03	7.00E+04	8.03E+02	2.17E+04	9.53E+03	2.58E+05	2.62E+04	7.08E+05	6.47E+02	7.08E+05
Zn-69	3.00E+04	8.12E+05	2.98E+05	8.06E+06	9.25E+04	2.50E+06	1.10E+06	2.97E+07	3.02E+06	8.16E+07	7.46E+04	8.16E+07
Zn-69m	2.87E+03	7.76E+04	2.85E+04	7.71E+05	8.85E+03	2.39E+05	1.05E+05	2.84E+06	2.89E+05	7.80E+06	7.13E+03	7.80E+06
Zn-71m	4.01E+03	1.08E+05	3.98E+04	1.08E+06	1.24E+04	3.34E+05	1.47E+05	3.96E+06	4.03E+05	1.09E+07	9.96E+03	1.09E+07
Zn-72	6.83E+02	1.85E+04	6.78E+03	1.83E+05	2.11E+03	5.69E+04	2.50E+04	6.75E+05	6.87E+04	1.86E+06	1.70E+03	1.86E+06
Ga-65	2.56E+04	6.92E+05	2.54E+05	6.87E+06	7.88E+04	2.13E+06	9.35E+05	2.53E+07	2.57E+06	6.95E+07	6.35E+04	6.95E+07
Ga-66	7.82E+02	2.11E+04	7.76E+03	2.10E+05	2.41E+03	6.51E+04	2.86E+04	7.73E+05	7.86E+04	2.12E+06	1.94E+03	2.12E+06
Ga-67	4.78E+03	1.29E+05	4.75E+04	1.28E+06	1.47E+04	3.98E+05	1.75E+05	4.73E+06	4.81E+05	1.30E+07	1.19E+04	1.30E+07
Ga-68	9.15E+03	2.47E+05	9.08E+04	2.45E+06	2.82E+04	7.61E+05	3.34E+05	9.03E+06	9.19E+05	2.48E+07	2.27E+04	2.48E+07
Ga-70	2.95E+04	7.97E+05	2.93E+05	7.91E+06	9.08E+04	2.45E+06	1.08E+06	2.91E+07	2.96E+06	8.01E+07	7.31E+04	8.01E+07

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
Ga-72	8.46E+02	2.29E+04	8.40E+03	2.27E+05	2.61E+03	7.04E+04	3.09E+04	8.36E+05	8.50E+04	2.30E+06	2.10E+03	2.30E+06
Ga-73	3.46E+03	9.36E+04	3.44E+04	9.29E+05	1.07E+04	2.88E+05	1.27E+05	3.42E+06	3.48E+05	9.41E+06	8.60E+03	9.41E+06
Ge-66	9.72E+03	2.63E+05	9.65E+04	2.61E+06	2.99E+04	8.09E+05	3.55E+05	9.60E+06	9.77E+05	2.64E+07	2.41E+04	2.64E+07
Ge-67	1.57E+04	4.25E+05	1.56E+05	4.22E+06	4.84E+04	1.31E+06	5.75E+05	1.55E+07	1.58E+06	4.27E+07	3.90E+04	4.27E+07
Ge-68	7.36E+02	1.99E+04	7.31E+03	1.97E+05	2.27E+03	6.13E+04	2.69E+04	7.27E+05	7.40E+04	2.00E+06	1.83E+03	2.00E+06
Ge-69	4.77E+03	1.29E+05	4.73E+04	1.28E+06	1.47E+04	3.97E+05	1.74E+05	4.71E+06	4.79E+05	1.29E+07	1.18E+04	1.29E+07
Ge-71	7.87E+04	2.13E+06	7.81E+05	2.11E+07	2.42E+05	6.55E+06	2.88E+06	7.78E+07	7.91E+06	2.14E+08	1.95E+05	2.14E+08
Ge-75	2.01E+04	5.43E+05	1.99E+05	5.39E+06	6.19E+04	1.67E+06	7.34E+05	1.98E+07	2.02E+06	5.46E+07	4.99E+04	5.46E+07
Ge-77	2.95E+03	7.98E+04	2.93E+04	7.93E+05	9.10E+03	2.46E+05	1.08E+05	2.92E+06	2.97E+05	8.02E+06	7.33E+03	8.02E+06
Ge-78	8.46E+03	2.29E+05	8.40E+04	2.27E+06	2.61E+04	7.04E+05	3.09E+05	8.36E+06	8.50E+05	2.30E+07	2.10E+04	2.30E+07
As-69	1.71E+04	4.63E+05	1.70E+05	4.60E+06	5.28E+04	1.43E+06	6.26E+05	1.69E+07	1.72E+06	4.65E+07	4.25E+04	4.65E+07
As-70	7.07E+03	1.91E+05	7.01E+04	1.90E+06	2.18E+04	5.88E+05	2.58E+05	6.98E+06	7.10E+05	1.92E+07	1.75E+04	1.92E+07
As-71	2.12E+03	5.74E+04	2.11E+04	5.69E+05	6.54E+03	1.77E+05	7.76E+04	2.10E+06	2.13E+05	5.77E+06	5.27E+03	5.77E+06
As-72	5.14E+02	1.39E+04	5.10E+03	1.38E+05	1.58E+03	4.28E+04	1.88E+04	5.08E+05	5.17E+04	1.40E+06	1.28E+03	1.40E+06
As-73	3.54E+03	9.58E+04	3.52E+04	9.51E+05	1.09E+04	2.95E+05	1.30E+05	3.50E+06	3.56E+05	9.63E+06	8.79E+03	9.63E+06
As-74	7.40E+02	2.00E+04	7.35E+03	1.99E+05	2.28E+03	6.16E+04	2.71E+04	7.31E+05	7.44E+04	2.01E+06	1.84E+03	2.01E+06
As-76	5.89E+02	1.59E+04	5.85E+03	1.58E+05	1.82E+03	4.91E+04	2.15E+04	5.82E+05	5.92E+04	1.60E+06	1.46E+03	1.60E+06
As-77	2.36E+03	6.38E+04	2.34E+04	6.33E+05	7.27E+03	1.96E+05	8.63E+04	2.33E+06	2.37E+05	6.41E+06	5.86E+03	6.41E+06
As-78	4.77E+03	1.29E+05	4.73E+04	1.28E+06	1.47E+04	3.97E+05	1.74E+05	4.71E+06	4.79E+05	1.29E+07	1.18E+04	1.29E+07
Se-70	9.95E+03	2.69E+05	9.88E+04	2.67E+06	3.07E+04	8.28E+05	3.64E+05	9.83E+06	1.00E+06	2.70E+07	2.47E+04	2.70E+07
Se-72	1.51E+02	4.08E+03	1.50E+03	4.05E+04	4.66E+02	1.26E+04	5.52E+03	1.49E+05	1.52E+04	4.10E+05	3.75E+02	4.10E+05
Se-73	4.47E+03	1.21E+05	4.44E+04	1.20E+06	1.38E+04	3.72E+05	1.64E+05	4.42E+06	4.50E+05	1.22E+07	1.11E+04	1.22E+07
Se-73m	3.39E+04	9.16E+05	3.36E+05	9.09E+06	1.04E+05	2.82E+06	1.24E+06	3.35E+07	3.41E+06	9.21E+07	8.41E+04	9.21E+07

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
Se-75	3.71E+02	1.00E+04	3.69E+03	9.96E+04	1.14E+03	3.09E+04	1.36E+04	3.67E+05	3.73E+04	1.01E+06	9.21E+02	1.01E+06
Se-79	2.66E+02	7.18E+03	2.64E+03	7.13E+04	8.19E+02	2.21E+04	9.71E+03	2.63E+05	2.67E+04	7.22E+05	6.59E+02	7.22E+05
Se-81	3.45E+04	9.31E+05	3.42E+05	9.24E+06	1.06E+05	2.87E+06	1.26E+06	3.40E+07	3.46E+06	9.36E+07	8.55E+04	9.36E+07
Se-81m	1.74E+04	4.69E+05	1.72E+05	4.66E+06	5.35E+04	1.45E+06	6.35E+05	1.72E+07	1.75E+06	4.72E+07	4.31E+04	4.72E+07
Se-83	2.12E+04	5.73E+05	2.10E+05	5.68E+06	6.53E+04	1.76E+06	7.74E+05	2.09E+07	2.13E+06	5.76E+07	5.26E+04	5.76E+07
Br-74	1.16E+04	3.14E+05	1.15E+05	3.12E+06	3.58E+04	9.68E+05	4.25E+05	1.15E+07	1.17E+06	3.16E+07	2.88E+04	3.16E+07
Br-74m	7.07E+03	1.91E+05	7.01E+04	1.90E+06	2.18E+04	5.88E+05	2.58E+05	6.98E+06	7.10E+05	1.92E+07	1.75E+04	1.92E+07
Br-75	1.21E+04	3.26E+05	1.20E+05	3.24E+06	3.72E+04	1.01E+06	4.41E+05	1.19E+07	1.21E+06	3.28E+07	3.00E+04	3.28E+07
Br-76	2.10E+03	5.68E+04	2.09E+04	5.64E+05	6.47E+03	1.75E+05	7.68E+04	2.08E+06	2.11E+05	5.71E+06	5.21E+03	5.71E+06
Br-77	1.04E+04	2.80E+05	1.03E+05	2.78E+06	3.19E+04	8.63E+05	3.79E+05	1.02E+07	1.04E+06	2.82E+07	2.57E+04	2.82E+07
Br-80	2.98E+04	8.04E+05	2.95E+05	7.98E+06	9.17E+04	2.48E+06	1.09E+06	2.94E+07	2.99E+06	8.08E+07	7.38E+04	8.08E+07
Br-80m	8.02E+03	2.17E+05	7.96E+04	2.15E+06	2.47E+04	6.68E+05	2.93E+05	7.93E+06	8.06E+05	2.18E+07	1.99E+04	2.18E+07
Br-82	1.84E+03	4.98E+04	1.83E+04	4.94E+05	5.68E+03	1.53E+05	6.73E+04	1.82E+06	1.85E+05	5.01E+06	4.57E+03	5.01E+06
Br-83	2.08E+04	5.62E+05	2.06E+05	5.58E+06	6.41E+04	1.73E+06	7.60E+05	2.05E+07	2.09E+06	5.65E+07	5.16E+04	5.65E+07
Br-84	1.05E+04	2.85E+05	1.05E+05	2.83E+06	3.25E+04	8.78E+05	3.85E+05	1.04E+07	1.06E+06	2.86E+07	2.62E+04	2.86E+07
Rb-78	1.34E+04	3.62E+05	1.33E+05	3.59E+06	4.12E+04	1.11E+06	4.89E+05	1.32E+07	1.35E+06	3.64E+07	3.32E+04	3.64E+07
Rb-79	1.89E+04	5.11E+05	1.88E+05	5.07E+06	5.82E+04	1.57E+06	6.91E+05	1.87E+07	1.90E+06	5.13E+07	4.69E+04	5.13E+07
Rb-81	1.97E+04	5.33E+05	1.96E+05	5.29E+06	6.07E+04	1.64E+06	7.20E+05	1.95E+07	1.98E+06	5.35E+07	4.89E+04	5.35E+07
Rb-81m	9.95E+04	2.69E+06	9.88E+05	2.67E+07	3.07E+05	8.28E+06	3.64E+06	9.83E+07	1.00E+07	2.70E+08	2.47E+05	2.70E+08
Rb-82m	7.63E+03	2.06E+05	7.57E+04	2.05E+06	2.35E+04	6.35E+05	2.79E+05	7.54E+06	7.67E+05	2.07E+07	1.89E+04	2.07E+07
Rb-83	5.81E+02	1.57E+04	5.77E+03	1.56E+05	1.79E+03	4.84E+04	2.12E+04	5.74E+05	5.84E+04	1.58E+06	1.44E+03	1.58E+06
Rb-84	3.53E+02	9.55E+03	3.51E+03	9.48E+04	1.09E+03	2.94E+04	1.29E+04	3.49E+05	3.55E+04	9.60E+05	8.77E+02	9.60E+05
Rb-84m	1.36E+05	3.67E+06	1.35E+06	3.64E+07	4.18E+05	1.13E+07	4.96E+06	1.34E+08	1.36E+07	3.69E+08	3.37E+05	3.69E+08

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
Rb-86	3.26E+02	8.82E+03	3.24E+03	8.76E+04	1.01E+03	2.72E+04	1.19E+04	3.22E+05	3.28E+04	8.87E+05	8.10E+02	8.87E+05
Rb-87	6.07E+02	1.64E+04	6.02E+03	1.63E+05	1.87E+03	5.05E+04	2.22E+04	5.99E+05	6.10E+04	1.65E+06	1.51E+03	1.65E+06
Rb-88	1.02E+04	2.76E+05	1.01E+05	2.73E+06	3.14E+04	8.49E+05	3.73E+05	1.01E+07	1.02E+06	2.77E+07	2.53E+04	2.77E+07
Rb-89	2.09E+04	5.65E+05	2.07E+05	5.61E+06	6.44E+04	1.74E+06	7.64E+05	2.06E+07	2.10E+06	5.68E+07	5.19E+04	5.68E+07
Sr-80	2.48E+03	6.71E+04	2.46E+04	6.66E+05	7.65E+03	2.07E+05	9.07E+04	2.45E+06	2.50E+05	6.74E+06	6.16E+03	6.74E+06
Sr-81	1.41E+04	3.80E+05	1.40E+05	3.77E+06	4.33E+04	1.17E+06	5.14E+05	1.39E+07	1.41E+06	3.82E+07	3.49E+04	3.82E+07
Sr-82	1.48E+02	3.99E+03	1.46E+03	3.96E+04	4.54E+02	1.23E+04	5.39E+03	1.46E+05	1.48E+04	4.01E+05	3.66E+02	4.01E+05
Sr-83	1.93E+03	5.20E+04	1.91E+04	5.17E+05	5.93E+03	1.60E+05	7.04E+04	1.90E+06	1.93E+05	5.23E+06	4.78E+03	5.23E+06
Sr-85	1.57E+03	4.23E+04	1.55E+04	4.20E+05	4.83E+03	1.30E+05	5.72E+04	1.55E+06	1.57E+05	4.25E+06	3.89E+03	4.25E+06
Sr-85m	1.65E+05	4.46E+06	1.64E+06	4.43E+07	5.09E+05	1.38E+07	6.04E+06	1.63E+08	1.66E+07	4.49E+08	4.10E+05	4.49E+08
Sr-87m	3.22E+04	8.71E+05	3.20E+05	8.64E+06	9.93E+04	2.68E+06	1.18E+06	3.18E+07	3.24E+06	8.75E+07	8.00E+04	8.75E+07
Sr-89	3.45E+02	9.31E+03	3.42E+03	9.24E+04	1.06E+03	2.87E+04	1.26E+04	3.40E+05	3.46E+04	9.36E+05	8.55E+02	9.36E+05
Sr-90	3.45E+01	9.34E+02	3.43E+02	9.27E+03	1.06E+02	2.88E+03	1.26E+03	3.41E+04	3.47E+03	9.38E+04	8.57E+01	9.38E+04
Sr-91	1.47E+03	3.97E+04	1.46E+04	3.94E+05	4.52E+03	1.22E+05	5.37E+04	1.45E+06	1.48E+05	3.99E+06	3.64E+03	3.99E+06
Sr-92	2.29E+03	6.18E+04	2.27E+04	6.13E+05	7.04E+03	1.90E+05	8.36E+04	2.26E+06	2.30E+05	6.21E+06	5.67E+03	6.21E+06
Y-84m	6.95E+03	1.88E+05	6.90E+04	1.86E+06	2.14E+04	5.79E+05	2.54E+05	6.86E+06	6.98E+05	1.89E+07	1.72E+04	1.89E+07
Y-85	5.12E+03	1.38E+05	5.08E+04	1.37E+06	1.58E+04	4.26E+05	1.87E+05	5.06E+06	5.14E+05	1.39E+07	1.27E+04	1.39E+07
Y-85m	2.52E+03	6.80E+04	2.50E+04	6.75E+05	7.76E+03	2.10E+05	9.20E+04	2.49E+06	2.53E+05	6.84E+06	6.25E+03	6.84E+06
Y-86	1.02E+03	2.76E+04	1.01E+04	2.73E+05	3.14E+03	8.49E+04	3.73E+04	1.01E+06	1.02E+05	2.77E+06	2.53E+03	2.77E+06
Y-86m	1.73E+04	4.69E+05	1.72E+05	4.65E+06	5.34E+04	1.44E+06	6.34E+05	1.71E+07	1.74E+06	4.71E+07	4.30E+04	4.71E+07
Y-87	1.75E+03	4.72E+04	1.73E+04	4.69E+05	5.38E+03	1.45E+05	6.38E+04	1.73E+06	1.76E+05	4.74E+06	4.33E+03	4.74E+06
Y-87m	4.30E+03	1.16E+05	4.27E+04	1.15E+06	1.33E+04	3.58E+05	1.57E+05	4.25E+06	4.33E+05	1.17E+07	1.07E+04	1.17E+07
Y-88	7.73E+02	2.09E+04	7.67E+03	2.07E+05	2.38E+03	6.43E+04	2.82E+04	7.63E+05	7.76E+04	2.10E+06	1.92E+03	2.10E+06

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
Y-90	3.36E+02	9.09E+03	3.34E+03	9.02E+04	1.04E+03	2.80E+04	1.23E+04	3.32E+05	3.38E+04	9.13E+05	8.34E+02	9.13E+05
Y-90m	5.29E+03	1.43E+05	5.25E+04	1.42E+06	1.63E+04	4.41E+05	1.93E+05	5.23E+06	5.32E+05	1.44E+07	1.31E+04	1.44E+07
Y-91	3.80E+02	1.03E+04	3.78E+03	1.02E+05	1.17E+03	3.17E+04	1.39E+04	3.76E+05	3.82E+04	1.03E+06	9.44E+02	1.03E+06
Y-91m	8.52E+04	2.30E+06	8.46E+05	2.29E+07	2.62E+05	7.09E+06	3.11E+06	8.41E+07	8.56E+06	2.31E+08	2.11E+05	2.31E+08
Y-92	1.83E+03	4.95E+04	1.82E+04	4.91E+05	5.64E+03	1.53E+05	6.69E+04	1.81E+06	1.84E+05	4.98E+06	4.55E+03	4.98E+06
Y-93	7.77E+02	2.10E+04	7.72E+03	2.09E+05	2.39E+03	6.47E+04	2.84E+04	7.68E+05	7.81E+04	2.11E+06	1.93E+03	2.11E+06
Y-94	1.10E+04	2.97E+05	1.09E+05	2.95E+06	3.39E+04	9.16E+05	4.02E+05	1.09E+07	1.11E+06	2.99E+07	2.73E+04	2.99E+07
Y-95	2.18E+04	5.89E+05	2.16E+05	5.84E+06	6.71E+04	1.81E+06	7.96E+05	2.15E+07	2.19E+06	5.92E+07	5.41E+04	5.92E+07
Zr-86	1.13E+03	3.06E+04	1.12E+04	3.03E+05	3.48E+03	9.41E+04	4.13E+04	1.12E+06	1.14E+05	3.07E+06	2.81E+03	3.07E+06
Zr-87	4.96E+03	1.34E+05	4.92E+04	1.33E+06	1.53E+04	4.13E+05	1.81E+05	4.89E+06	4.98E+05	1.35E+07	1.23E+04	1.35E+07
Zr-88	2.32E+03	6.26E+04	2.30E+04	6.21E+05	7.13E+03	1.93E+05	8.46E+04	2.29E+06	2.33E+05	6.29E+06	5.75E+03	6.29E+06
Zr-89	1.22E+03	3.30E+04	1.21E+04	3.27E+05	3.76E+03	1.02E+05	4.46E+04	1.20E+06	1.23E+05	3.31E+06	3.03E+03	3.31E+06
Zr-93	1.24E+03	3.36E+04	1.23E+04	3.34E+05	3.83E+03	1.04E+05	4.55E+04	1.23E+06	1.25E+05	3.38E+06	3.09E+03	3.38E+06
Zr-95	9.87E+02	2.67E+04	9.80E+03	2.65E+05	3.04E+03	8.22E+04	3.61E+04	9.75E+05	9.92E+04	2.68E+06	2.45E+03	2.68E+06
Zr-97	4.44E+02	1.20E+04	4.41E+03	1.19E+05	1.37E+03	3.70E+04	1.62E+04	4.39E+05	4.46E+04	1.21E+06	1.10E+03	1.21E+06
Nb-88	1.32E+04	3.56E+05	1.31E+05	3.54E+06	4.06E+04	1.10E+06	4.82E+05	1.30E+07	1.33E+06	3.58E+07	3.27E+04	3.58E+07
Nb-89	3.37E+03	9.11E+04	3.35E+04	9.04E+05	1.04E+04	2.81E+05	1.23E+05	3.33E+06	3.39E+05	9.16E+06	8.36E+03	9.16E+06
Nb-89m	6.91E+03	1.87E+05	6.86E+04	1.85E+06	2.13E+04	5.75E+05	2.53E+05	6.83E+06	6.94E+05	1.88E+07	1.71E+04	1.88E+07
Nb-90	7.68E+02	2.08E+04	7.62E+03	2.06E+05	2.37E+03	6.39E+04	2.81E+04	7.58E+05	7.72E+04	2.09E+06	1.91E+03	2.09E+06
Nb-91	2.00E+04	5.40E+05	1.98E+05	5.36E+06	6.16E+04	1.66E+06	7.31E+05	1.98E+07	2.01E+06	5.43E+07	4.96E+04	5.43E+07
Nb-91m	2.20E+03	5.95E+04	2.19E+04	5.91E+05	6.78E+03	1.83E+05	8.05E+04	2.17E+06	2.21E+05	5.98E+06	5.46E+03	5.98E+06
Nb-92	9.79E+02	2.65E+04	9.72E+03	2.63E+05	3.02E+03	8.15E+04	3.58E+04	9.67E+05	9.84E+04	2.66E+06	2.43E+03	2.66E+06
Nb-92m	1.99E+03	5.37E+04	1.97E+04	5.33E+05	6.12E+03	1.65E+05	7.26E+04	1.96E+06	2.00E+05	5.40E+06	4.93E+03	5.40E+06

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
Nb-93m	6.99E+03	1.89E+05	6.94E+04	1.87E+06	2.15E+04	5.82E+05	2.55E+05	6.90E+06	7.02E+05	1.90E+07	1.73E+04	1.90E+07
Nb-94	5.58E+02	1.51E+04	5.54E+03	1.50E+05	1.72E+03	4.64E+04	2.04E+04	5.51E+05	5.61E+04	1.51E+06	1.38E+03	1.51E+06
Nb-95	1.66E+03	4.48E+04	1.65E+04	4.45E+05	5.11E+03	1.38E+05	6.06E+04	1.64E+06	1.67E+05	4.50E+06	4.12E+03	4.50E+06
Nb-95m	1.49E+03	4.03E+04	1.48E+04	4.00E+05	4.59E+03	1.24E+05	5.45E+04	1.47E+06	1.50E+05	4.05E+06	3.70E+03	4.05E+06
Nb-96	8.76E+02	2.37E+04	8.69E+03	2.35E+05	2.70E+03	7.29E+04	3.20E+04	8.65E+05	8.80E+04	2.38E+06	2.17E+03	2.38E+06
Nb-97	1.35E+04	3.66E+05	1.34E+05	3.63E+06	4.17E+04	1.13E+06	4.95E+05	1.34E+07	1.36E+06	3.68E+07	3.36E+04	3.68E+07
Nb-98m	8.76E+03	2.37E+05	8.69E+04	2.35E+06	2.70E+04	7.29E+05	3.20E+05	8.65E+06	8.80E+05	2.38E+07	2.17E+04	2.38E+07
Mo-90	4.49E+03	1.21E+05	4.46E+04	1.20E+06	1.38E+04	3.74E+05	1.64E+05	4.44E+06	4.51E+05	1.22E+07	1.11E+04	1.22E+07
Mo-91	1.55E+04	4.19E+05	1.54E+05	4.16E+06	4.77E+04	1.29E+06	5.66E+05	1.53E+07	1.56E+06	4.21E+07	3.84E+04	4.21E+07
Mo-93	3.99E+02	1.08E+04	3.96E+03	1.07E+05	1.23E+03	3.32E+04	1.46E+04	3.94E+05	4.01E+04	1.08E+06	9.89E+02	1.08E+06
Mo-93m	8.46E+03	2.29E+05	8.40E+04	2.27E+06	2.61E+04	7.04E+05	3.09E+05	8.36E+06	8.50E+05	2.30E+07	2.10E+04	2.30E+07
Mo-99	1.61E+03	4.35E+04	1.60E+04	4.32E+05	4.96E+03	1.34E+05	5.88E+04	1.59E+06	1.62E+05	4.37E+06	3.99E+03	4.37E+06
Mo-101	2.33E+04	6.31E+05	2.32E+05	6.26E+06	7.19E+04	1.94E+06	8.53E+05	2.30E+07	2.35E+06	6.34E+07	5.79E+04	6.34E+07
Mo-102	1.33E+04	3.61E+05	1.32E+05	3.58E+06	4.11E+04	1.11E+06	4.88E+05	1.32E+07	1.34E+06	3.62E+07	3.31E+04	3.62E+07
Tc-93	1.41E+04	3.80E+05	1.40E+05	3.77E+06	4.33E+04	1.17E+06	5.14E+05	1.39E+07	1.41E+06	3.82E+07	3.49E+04	3.82E+07
Tc-93m	3.03E+04	8.18E+05	3.00E+05	8.12E+06	9.32E+04	2.52E+06	1.11E+06	2.99E+07	3.04E+06	8.22E+07	7.51E+04	8.22E+07
Tc-94	4.92E+03	1.33E+05	4.88E+04	1.32E+06	1.51E+04	4.09E+05	1.80E+05	4.86E+06	4.94E+05	1.34E+07	1.22E+04	1.34E+07
Tc-94m	9.15E+03	2.47E+05	9.08E+04	2.45E+06	2.82E+04	7.61E+05	3.34E+05	9.03E+06	9.19E+05	2.48E+07	2.27E+04	2.48E+07
Tc-95	5.50E+03	1.49E+05	5.46E+04	1.48E+06	1.70E+04	4.58E+05	2.01E+05	5.44E+06	5.53E+05	1.49E+07	1.37E+04	1.49E+07
Tc-95m	1.73E+03	4.68E+04	1.72E+04	4.64E+05	5.33E+03	1.44E+05	6.32E+04	1.71E+06	1.74E+05	4.70E+06	4.29E+03	4.70E+06
Tc-96	9.01E+02	2.44E+04	8.95E+03	2.42E+05	2.78E+03	7.50E+04	3.29E+04	8.90E+05	9.06E+04	2.45E+06	2.24E+03	2.45E+06
Tc-96m	7.87E+04	2.13E+06	7.81E+05	2.11E+07	2.42E+05	6.55E+06	2.88E+06	7.78E+07	7.91E+06	2.14E+08	1.95E+05	2.14E+08
Tc-97	1.31E+04	3.55E+05	1.30E+05	3.52E+06	4.05E+04	1.09E+06	4.80E+05	1.30E+07	1.32E+06	3.57E+07	3.26E+04	3.57E+07

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
Tc-97m	1.62E+03	4.37E+04	1.60E+04	4.33E+05	4.98E+03	1.34E+05	5.90E+04	1.60E+06	1.62E+05	4.39E+06	4.01E+03	4.39E+06
Tc-98	5.12E+02	1.38E+04	5.08E+03	1.37E+05	1.58E+03	4.26E+04	1.87E+04	5.06E+05	5.14E+04	1.39E+06	1.27E+03	1.39E+06
Tc-99	1.38E+03	3.74E+04	1.37E+04	3.71E+05	4.26E+03	1.15E+05	5.05E+04	1.37E+06	1.39E+05	3.75E+06	3.43E+03	3.75E+06
Tc-99m	4.27E+04	1.16E+06	4.24E+05	1.15E+07	1.32E+05	3.56E+06	1.56E+06	4.22E+07	4.30E+06	1.16E+08	1.06E+05	1.16E+08
Tc-101	4.98E+04	1.34E+06	4.94E+05	1.33E+07	1.53E+05	4.14E+06	1.82E+06	4.91E+07	5.00E+06	1.35E+08	1.23E+05	1.35E+08
Tc-104	1.14E+04	3.08E+05	1.13E+05	3.06E+06	3.52E+04	9.50E+05	4.17E+05	1.13E+07	1.15E+06	3.10E+07	2.83E+04	3.10E+07
Ru-94	9.95E+03	2.69E+05	9.88E+04	2.67E+06	3.07E+04	8.28E+05	3.64E+05	9.83E+06	1.00E+06	2.70E+07	2.47E+04	2.70E+07
Ru-95	1.60E+04	4.34E+05	1.59E+05	4.31E+06	4.94E+04	1.34E+06	5.87E+05	1.59E+07	1.61E+06	4.36E+07	3.98E+04	4.36E+07
Ru-97	6.41E+03	1.73E+05	6.36E+04	1.72E+06	1.97E+04	5.34E+05	2.34E+05	6.33E+06	6.44E+05	1.74E+07	1.59E+04	1.74E+07
Ru-103	1.32E+03	3.57E+04	1.31E+04	3.55E+05	4.07E+03	1.10E+05	4.83E+04	1.31E+06	1.33E+05	3.59E+06	3.28E+03	3.59E+06
Ru-105	3.31E+03	8.94E+04	3.28E+04	8.87E+05	1.02E+04	2.75E+05	1.21E+05	3.27E+06	3.32E+05	8.99E+06	8.21E+03	8.99E+06
Ru-106	1.30E+02	3.51E+03	1.29E+03	3.48E+04	4.00E+02	1.08E+04	4.74E+03	1.28E+05	1.30E+04	3.52E+05	3.22E+02	3.52E+05
Rh-97	2.01E+04	5.43E+05	1.99E+05	5.39E+06	6.19E+04	1.67E+06	7.34E+05	1.98E+07	2.02E+06	5.46E+07	4.99E+04	5.46E+07
Rh-97m	2.08E+04	5.61E+05	2.06E+05	5.57E+06	6.40E+04	1.73E+06	7.59E+05	2.05E+07	2.09E+06	5.64E+07	5.15E+04	5.64E+07
Rh-99	1.68E+03	4.55E+04	1.67E+04	4.52E+05	5.18E+03	1.40E+05	6.15E+04	1.66E+06	1.69E+05	4.57E+06	4.18E+03	4.57E+06
Rh-99m	1.47E+04	3.97E+05	1.46E+05	3.94E+06	4.53E+04	1.22E+06	5.37E+05	1.45E+07	1.48E+06	3.99E+07	3.65E+04	3.99E+07
Rh-100	1.47E+03	3.96E+04	1.46E+04	3.93E+05	4.52E+03	1.22E+05	5.36E+04	1.45E+06	1.47E+05	3.98E+06	3.64E+03	3.98E+06
Rh-101	1.80E+03	4.87E+04	1.79E+04	4.84E+05	5.55E+03	1.50E+05	6.59E+04	1.78E+06	1.81E+05	4.90E+06	4.47E+03	4.90E+06
Rh-101m	4.57E+03	1.24E+05	4.54E+04	1.23E+06	1.41E+04	3.81E+05	1.67E+05	4.52E+06	4.60E+05	1.24E+07	1.13E+04	1.24E+07
Rh-102	7.82E+02	2.11E+04	7.76E+03	2.10E+05	2.41E+03	6.51E+04	2.86E+04	7.73E+05	7.86E+04	2.12E+06	1.94E+03	2.12E+06
Rh-102m	3.75E+02	1.01E+04	3.72E+03	1.01E+05	1.15E+03	3.12E+04	1.37E+04	3.70E+05	3.77E+04	1.02E+06	9.30E+02	1.02E+06
Rh-103m	2.43E+05	6.58E+06	2.42E+06	6.53E+07	7.50E+05	2.03E+07	8.90E+06	2.40E+08	2.45E+07	6.61E+08	6.04E+05	6.61E+08
Rh-105	2.48E+03	6.70E+04	2.46E+04	6.65E+05	7.63E+03	2.06E+05	9.05E+04	2.45E+06	2.49E+05	6.73E+06	6.15E+03	6.73E+06

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
Rh-106m	5.71E+03	1.54E+05	5.66E+04	1.53E+06	1.76E+04	4.75E+05	2.09E+05	5.64E+06	5.73E+05	1.55E+07	1.42E+04	1.55E+07
Rh-107	3.89E+04	1.05E+06	3.86E+05	1.04E+07	1.20E+05	3.24E+06	1.42E+06	3.84E+07	3.91E+06	1.06E+08	9.65E+04	1.06E+08
Pd-98	1.51E+04	4.07E+05	1.50E+05	4.04E+06	4.64E+04	1.26E+06	5.51E+05	1.49E+07	1.52E+06	4.10E+07	3.74E+04	4.10E+07
Pd-99	2.71E+04	7.32E+05	2.69E+05	7.27E+06	8.35E+04	2.26E+06	9.90E+05	2.68E+07	2.72E+06	7.36E+07	6.72E+04	7.36E+07
Pd-100	1.05E+03	2.85E+04	1.05E+04	2.83E+05	3.25E+03	8.78E+04	3.85E+04	1.04E+06	1.06E+05	2.86E+06	2.62E+03	2.86E+06
Pd-101	1.02E+04	2.76E+05	1.01E+05	2.73E+06	3.14E+04	8.49E+05	3.73E+05	1.01E+07	1.02E+06	2.77E+07	2.53E+04	2.77E+07
Pd-103	4.73E+03	1.28E+05	4.69E+04	1.27E+06	1.46E+04	3.94E+05	1.73E+05	4.67E+06	4.75E+05	1.28E+07	1.17E+04	1.28E+07
Pd-107	2.35E+04	6.35E+05	2.33E+05	6.31E+06	7.24E+04	1.96E+06	8.59E+05	2.32E+07	2.36E+06	6.39E+07	5.83E+04	6.39E+07
Pd-109	1.62E+03	4.37E+04	1.61E+04	4.34E+05	4.98E+03	1.35E+05	5.91E+04	1.60E+06	1.63E+05	4.39E+06	4.01E+03	4.39E+06
Pd-111	1.84E+04	4.98E+05	1.83E+05	4.94E+06	5.68E+04	1.53E+06	6.73E+05	1.82E+07	1.85E+06	5.01E+07	4.57E+04	5.01E+07
Pd-112	3.51E+02	9.50E+03	3.49E+03	9.43E+04	1.08E+03	2.93E+04	1.28E+04	3.47E+05	3.53E+04	9.54E+05	8.72E+02	9.54E+05
Ag-101	2.91E+04	7.87E+05	2.89E+05	7.81E+06	8.97E+04	2.43E+06	1.06E+06	2.88E+07	2.93E+06	7.91E+07	7.23E+04	7.91E+07
Ag-102	2.32E+04	6.27E+05	2.30E+05	6.23E+06	7.15E+04	1.93E+06	8.48E+05	2.29E+07	2.33E+06	6.30E+07	5.76E+04	6.30E+07
Ag-103	2.51E+04	6.78E+05	2.49E+05	6.73E+06	7.72E+04	2.09E+06	9.16E+05	2.48E+07	2.52E+06	6.81E+07	6.22E+04	6.81E+07
Ag-104	1.63E+04	4.41E+05	1.62E+05	4.37E+06	5.02E+04	1.36E+06	5.96E+05	1.61E+07	1.64E+06	4.43E+07	4.05E+04	4.43E+07
Ag-104m	1.42E+04	3.85E+05	1.41E+05	3.82E+06	4.38E+04	1.18E+06	5.20E+05	1.41E+07	1.43E+06	3.87E+07	3.53E+04	3.87E+07
Ag-105	2.10E+03	5.69E+04	2.09E+04	5.65E+05	6.48E+03	1.75E+05	7.69E+04	2.08E+06	2.12E+05	5.72E+06	5.22E+03	5.72E+06
Ag-106	2.95E+04	7.98E+05	2.93E+05	7.93E+06	9.10E+04	2.46E+06	1.08E+06	2.92E+07	2.97E+06	8.02E+07	7.33E+04	8.02E+07
Ag-106m	6.80E+02	1.84E+04	6.75E+03	1.82E+05	2.09E+03	5.66E+04	2.48E+04	6.71E+05	6.83E+04	1.85E+06	1.69E+03	1.85E+06
Ag-108m	4.22E+02	1.14E+04	4.18E+03	1.13E+05	1.30E+03	3.51E+04	1.54E+04	4.16E+05	4.24E+04	1.15E+06	1.05E+03	1.15E+06
Ag-110m	3.50E+02	9.47E+03	3.48E+03	9.40E+04	1.08E+03	2.92E+04	1.28E+04	3.46E+05	3.52E+04	9.52E+05	8.69E+02	9.52E+05
Ag-111	7.19E+02	1.94E+04	7.14E+03	1.93E+05	2.21E+03	5.99E+04	2.63E+04	7.10E+05	7.23E+04	1.95E+06	1.78E+03	1.95E+06
Ag-112	2.17E+03	5.87E+04	2.15E+04	5.82E+05	6.69E+03	1.81E+05	7.93E+04	2.14E+06	2.18E+05	5.90E+06	5.39E+03	5.90E+06

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
Ag-113	2.30E+03	6.23E+04	2.29E+04	6.18E+05	7.10E+03	1.92E+05	8.42E+04	2.28E+06	2.31E+05	6.26E+06	5.72E+03	6.26E+06
Ag-115	1.50E+04	4.05E+05	1.49E+05	4.02E+06	4.62E+04	1.25E+06	5.48E+05	1.48E+07	1.51E+06	4.07E+07	3.72E+04	4.07E+07
Cd-104	9.28E+03	2.51E+05	9.21E+04	2.49E+06	2.86E+04	7.73E+05	3.39E+05	9.17E+06	9.33E+05	2.52E+07	2.30E+04	2.52E+07
Cd-105	2.27E+04	6.15E+05	2.26E+05	6.10E+06	7.00E+04	1.89E+06	8.31E+05	2.25E+07	2.29E+06	6.18E+07	5.64E+04	6.18E+07
Cd-107	1.45E+04	3.91E+05	1.44E+05	3.88E+06	4.46E+04	1.21E+06	5.29E+05	1.43E+07	1.46E+06	3.93E+07	3.59E+04	3.93E+07
Cd-109	4.94E+02	1.33E+04	4.90E+03	1.32E+05	1.52E+03	4.11E+04	1.80E+04	4.88E+05	4.96E+04	1.34E+06	1.22E+03	1.34E+06
Cd-111m	6.87E+04	1.86E+06	6.82E+05	1.84E+07	2.12E+05	5.72E+06	2.51E+06	6.79E+07	6.91E+06	1.87E+08	1.71E+05	1.87E+08
Cd-113	4.73E+01	1.28E+03	4.69E+02	1.27E+04	1.46E+02	3.94E+03	1.73E+03	4.67E+04	4.75E+03	1.28E+05	1.17E+02	1.28E+05
Cd-113m	4.84E+01	1.31E+03	4.80E+02	1.30E+04	1.49E+02	4.03E+03	1.77E+03	4.78E+04	4.86E+03	1.31E+05	1.20E+02	1.31E+05
Cd-115	6.55E+02	1.77E+04	6.50E+03	1.76E+05	2.02E+03	5.45E+04	2.39E+04	6.47E+05	6.58E+04	1.78E+06	1.62E+03	1.78E+06
Cd-115m	2.86E+02	7.73E+03	2.84E+03	7.67E+04	8.81E+02	2.38E+04	1.04E+04	2.82E+05	2.87E+04	7.77E+05	7.10E+02	7.77E+05
Cd-117	3.33E+03	9.01E+04	3.31E+04	8.95E+05	1.03E+04	2.78E+05	1.22E+05	3.29E+06	3.35E+05	9.06E+06	8.27E+03	9.06E+06
Cd-117m	3.35E+03	9.06E+04	3.33E+04	8.99E+05	1.03E+04	2.79E+05	1.23E+05	3.31E+06	3.37E+05	9.11E+06	8.32E+03	9.11E+06
Cd-118	4.98E+03	1.34E+05	4.94E+04	1.33E+06	1.53E+04	4.14E+05	1.82E+05	4.91E+06	5.00E+05	1.35E+07	1.23E+04	1.35E+07
In-107	2.35E+04	6.35E+05	2.33E+05	6.31E+06	7.24E+04	1.96E+06	8.59E+05	2.32E+07	2.36E+06	6.39E+07	5.83E+04	6.39E+07
In-108	1.28E+04	3.46E+05	1.27E+05	3.43E+06	3.94E+04	1.07E+06	4.68E+05	1.26E+07	1.29E+06	3.48E+07	3.18E+04	3.48E+07
In-108m	1.17E+04	3.17E+05	1.16E+05	3.15E+06	3.61E+04	9.77E+05	4.29E+05	1.16E+07	1.18E+06	3.19E+07	2.91E+04	3.19E+07
In-109	1.67E+04	4.51E+05	1.65E+05	4.47E+06	5.14E+04	1.39E+06	6.09E+05	1.65E+07	1.68E+06	4.53E+07	4.14E+04	4.53E+07
In-110	4.10E+03	1.11E+05	4.07E+04	1.10E+06	1.26E+04	3.42E+05	1.50E+05	4.05E+06	4.13E+05	1.11E+07	1.02E+04	1.11E+07
In-110m	9.28E+03	2.51E+05	9.21E+04	2.49E+06	2.86E+04	7.73E+05	3.39E+05	9.17E+06	9.33E+05	2.52E+07	2.30E+04	2.52E+07
In-111	3.28E+03	8.87E+04	3.26E+04	8.80E+05	1.01E+04	2.73E+05	1.20E+05	3.24E+06	3.30E+05	8.91E+06	8.14E+03	8.91E+06
In-112	8.88E+04	2.40E+06	8.82E+05	2.38E+07	2.74E+05	7.40E+06	3.25E+06	8.78E+07	8.93E+06	2.41E+08	2.20E+05	2.41E+08
In-112m	5.46E+04	1.47E+06	5.41E+05	1.46E+07	1.68E+05	4.54E+06	1.99E+06	5.39E+07	5.48E+06	1.48E+08	1.35E+05	1.48E+08

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
In-113m	3.17E+04	8.58E+05	3.15E+05	8.51E+06	9.77E+04	2.64E+06	1.16E+06	3.13E+07	3.19E+06	8.62E+07	7.87E+04	8.62E+07
In-114m	2.14E+02	5.79E+03	2.12E+03	5.74E+04	6.59E+02	1.78E+04	7.82E+03	2.11E+05	2.15E+04	5.81E+05	5.31E+02	5.81E+05
In-115	3.50E+01	9.47E+02	3.48E+02	9.40E+03	1.08E+02	2.92E+03	1.28E+03	3.46E+04	3.52E+03	9.52E+04	8.69E+01	9.52E+04
In-115m	1.05E+04	2.82E+05	1.04E+05	2.80E+06	3.22E+04	8.70E+05	3.82E+05	1.03E+07	1.05E+06	2.84E+07	2.59E+04	2.84E+07
In-116m	1.51E+04	4.08E+05	1.50E+05	4.05E+06	4.65E+04	1.26E+06	5.52E+05	1.49E+07	1.52E+06	4.10E+07	3.75E+04	4.10E+07
In-117	3.10E+04	8.38E+05	3.08E+05	8.32E+06	9.55E+04	2.58E+06	1.13E+06	3.06E+07	3.12E+06	8.42E+07	7.70E+04	8.42E+07
In-117m	7.40E+03	2.00E+05	7.35E+04	1.99E+06	2.28E+04	6.16E+05	2.71E+05	7.31E+06	7.44E+05	2.01E+07	1.84E+04	2.01E+07
In-119m	2.01E+04	5.42E+05	1.99E+05	5.38E+06	6.18E+04	1.67E+06	7.33E+05	1.98E+07	2.02E+06	5.45E+07	4.98E+04	5.45E+07
Sn-108	4.36E+04	1.18E+06	4.33E+05	1.17E+07	1.34E+05	3.63E+06	1.59E+06	4.31E+07	4.39E+06	1.19E+08	1.08E+05	1.19E+08
Sn-109	5.23E+04	1.41E+06	5.19E+05	1.40E+07	1.61E+05	4.35E+06	1.91E+06	5.16E+07	5.25E+06	1.42E+08	1.30E+05	1.42E+08
Sn-110	2.53E+03	6.85E+04	2.51E+04	6.80E+05	7.80E+03	2.11E+05	9.26E+04	2.50E+06	2.55E+05	6.88E+06	6.29E+03	6.88E+06
Sn-111	4.47E+04	1.21E+06	4.44E+05	1.20E+07	1.38E+05	3.72E+06	1.64E+06	4.42E+07	4.50E+06	1.22E+08	1.11E+05	1.22E+08
Sn-113	1.23E+03	3.33E+04	1.22E+04	3.30E+05	3.79E+03	1.03E+05	4.50E+04	1.22E+06	1.24E+05	3.34E+06	3.06E+03	3.34E+06
Sn-113m	2.83E+05	7.66E+06	2.81E+06	7.60E+07	8.73E+05	2.36E+07	1.04E+07	2.80E+08	2.85E+07	7.70E+08	7.03E+05	7.70E+08
Sn-117m	1.28E+03	3.47E+04	1.27E+04	3.44E+05	3.95E+03	1.07E+05	4.69E+04	1.27E+06	1.29E+05	3.48E+06	3.18E+03	3.48E+06
Sn-119m	2.55E+03	6.90E+04	2.54E+04	6.85E+05	7.87E+03	2.13E+05	9.33E+04	2.52E+06	2.57E+05	6.94E+06	6.34E+03	6.94E+06
Sn-121	3.92E+03	1.06E+05	3.89E+04	1.05E+06	1.21E+04	3.27E+05	1.43E+05	3.88E+06	3.94E+05	1.07E+07	9.74E+03	1.07E+07
Sn-121m	2.35E+03	6.34E+04	2.33E+04	6.30E+05	7.23E+03	1.95E+05	8.58E+04	2.32E+06	2.36E+05	6.37E+06	5.82E+03	6.37E+06
Sn-123	4.26E+02	1.15E+04	4.23E+03	1.14E+05	1.31E+03	3.55E+04	1.56E+04	4.21E+05	4.28E+04	1.16E+06	1.06E+03	1.16E+06
Sn-123m	2.40E+04	6.49E+05	2.38E+05	6.44E+06	7.40E+04	2.00E+06	8.78E+05	2.37E+07	2.41E+06	6.52E+07	5.96E+04	6.52E+07
Sn-125	2.97E+02	8.02E+03	2.95E+03	7.96E+04	9.14E+02	2.47E+04	1.08E+04	2.93E+05	2.98E+04	8.06E+05	7.37E+02	8.06E+05
Sn-126	1.95E+02	5.26E+03	1.93E+03	5.22E+04	6.00E+02	1.62E+04	7.11E+03	1.92E+05	1.96E+04	5.29E+05	4.83E+02	5.29E+05
Sn-127	4.71E+03	1.27E+05	4.68E+04	1.26E+06	1.45E+04	3.92E+05	1.72E+05	4.65E+06	4.73E+05	1.28E+07	1.17E+04	1.28E+07

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
Sn-128	6.10E+03	1.65E+05	6.05E+04	1.64E+06	1.88E+04	5.08E+05	2.23E+05	6.02E+06	6.13E+05	1.66E+07	1.51E+04	1.66E+07
Sb-115	3.95E+04	1.07E+06	3.92E+05	1.06E+07	1.22E+05	3.29E+06	1.44E+06	3.90E+07	3.97E+06	1.07E+08	9.80E+04	1.07E+08
Sb-116	3.14E+04	8.49E+05	3.12E+05	8.43E+06	9.68E+04	2.61E+06	1.15E+06	3.10E+07	3.16E+06	8.53E+07	7.79E+04	8.53E+07
Sb-116m	1.53E+04	4.13E+05	1.52E+05	4.10E+06	4.71E+04	1.27E+06	5.59E+05	1.51E+07	1.54E+06	4.16E+07	3.80E+04	4.16E+07
Sb-117	5.25E+04	1.42E+06	5.21E+05	1.41E+07	1.62E+05	4.37E+06	1.92E+06	5.18E+07	5.27E+06	1.43E+08	1.30E+05	1.43E+08
Sb-118m	4.69E+03	1.27E+05	4.66E+04	1.26E+06	1.45E+04	3.91E+05	1.72E+05	4.64E+06	4.72E+05	1.27E+07	1.16E+04	1.27E+07
Sb-119	1.11E+04	3.00E+05	1.10E+05	2.98E+06	3.42E+04	9.25E+05	4.06E+05	1.10E+07	1.12E+06	3.02E+07	2.76E+04	3.02E+07
Sb-120	6.48E+04	1.75E+06	6.43E+05	1.74E+07	2.00E+05	5.39E+06	2.37E+06	6.40E+07	6.51E+06	1.76E+08	1.61E+05	1.76E+08
Sb-120m	7.97E+02	2.15E+04	7.91E+03	2.14E+05	2.46E+03	6.64E+04	2.91E+04	7.88E+05	8.01E+04	2.17E+06	1.98E+03	2.17E+06
Sb-122	5.38E+02	1.46E+04	5.34E+03	1.44E+05	1.66E+03	4.48E+04	1.97E+04	5.32E+05	5.41E+04	1.46E+06	1.34E+03	1.46E+06
Sb-124	3.69E+02	9.97E+03	3.66E+03	9.90E+04	1.14E+03	3.07E+04	1.35E+04	3.65E+05	3.71E+04	1.00E+06	9.16E+02	1.00E+06
Sb-124n	9.79E+04	2.65E+06	9.72E+05	2.63E+07	3.02E+05	8.15E+06	3.58E+06	9.67E+07	9.84E+06	2.66E+08	2.43E+05	2.66E+08
Sb-125	8.46E+02	2.29E+04	8.40E+03	2.27E+05	2.61E+03	7.04E+04	3.09E+04	8.36E+05	8.50E+04	2.30E+06	2.10E+03	2.30E+06
Sb-126	3.57E+02	9.66E+03	3.55E+03	9.59E+04	1.10E+03	2.98E+04	1.31E+04	3.53E+05	3.59E+04	9.71E+05	8.87E+02	9.71E+05
Sb-126m	2.49E+04	6.72E+05	2.47E+05	6.67E+06	7.66E+04	2.07E+06	9.09E+05	2.46E+07	2.50E+06	6.76E+07	6.17E+04	6.76E+07
Sb-127	5.50E+02	1.49E+04	5.46E+03	1.48E+05	1.70E+03	4.58E+04	2.01E+04	5.44E+05	5.53E+04	1.49E+06	1.37E+03	1.49E+06
Sb-128	1.17E+03	3.17E+04	1.16E+04	3.15E+05	3.61E+03	9.77E+04	4.29E+04	1.16E+06	1.18E+05	3.19E+06	2.91E+03	3.19E+06
Sb-128m	2.80E+04	7.57E+05	2.78E+05	7.52E+06	8.63E+04	2.33E+06	1.02E+06	2.77E+07	2.82E+06	7.61E+07	6.95E+04	7.61E+07
Sb-129	2.17E+03	5.88E+04	2.16E+04	5.83E+05	6.70E+03	1.81E+05	7.95E+04	2.15E+06	2.19E+05	5.91E+06	5.40E+03	5.91E+06
Sb-130	1.02E+04	2.76E+05	1.01E+05	2.73E+06	3.14E+04	8.49E+05	3.73E+05	1.01E+07	1.02E+06	2.77E+07	2.53E+04	2.77E+07
Sb-131	8.46E+03	2.29E+05	8.40E+04	2.27E+06	2.61E+04	7.04E+05	3.09E+05	8.36E+06	8.50E+05	2.30E+07	2.10E+04	2.30E+07
Te-114	1.43E+04	3.86E+05	1.42E+05	3.83E+06	4.40E+04	1.19E+06	5.22E+05	1.41E+07	1.44E+06	3.88E+07	3.54E+04	3.88E+07
Te-116	4.82E+03	1.30E+05	4.79E+04	1.29E+06	1.49E+04	4.01E+05	1.76E+05	4.76E+06	4.84E+05	1.31E+07	1.20E+04	1.31E+07

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
Te-117	1.84E+04	4.97E+05	1.82E+05	4.93E+06	5.66E+04	1.53E+06	6.71E+05	1.81E+07	1.85E+06	4.99E+07	4.56E+04	4.99E+07
Te-118	3.01E+02	8.14E+03	2.99E+03	8.08E+04	9.28E+02	2.51E+04	1.10E+04	2.97E+05	3.03E+04	8.18E+05	7.47E+02	8.18E+05
Te-119	5.55E+03	1.50E+05	5.51E+04	1.49E+06	1.71E+04	4.62E+05	2.03E+05	5.48E+06	5.58E+05	1.51E+07	1.38E+04	1.51E+07
Te-119m	1.39E+03	3.75E+04	1.38E+04	3.72E+05	4.28E+03	1.16E+05	5.07E+04	1.37E+06	1.40E+05	3.77E+06	3.44E+03	3.77E+06
Te-121	2.20E+03	5.95E+04	2.19E+04	5.91E+05	6.78E+03	1.83E+05	8.05E+04	2.17E+06	2.21E+05	5.98E+06	5.46E+03	5.98E+06
Te-121m	4.10E+02	1.11E+04	4.07E+03	1.10E+05	1.26E+03	3.42E+04	1.50E+04	4.05E+05	4.13E+04	1.11E+06	1.02E+03	1.11E+06
Te-123	8.35E+02	2.26E+04	8.29E+03	2.24E+05	2.57E+03	6.95E+04	3.05E+04	8.24E+05	8.39E+04	2.27E+06	2.07E+03	2.27E+06
Te-123m	6.65E+02	1.80E+04	6.60E+03	1.78E+05	2.05E+03	5.54E+04	2.43E+04	6.57E+05	6.68E+04	1.81E+06	1.65E+03	1.81E+06
Te-125m	1.02E+03	2.76E+04	1.01E+04	2.73E+05	3.14E+03	8.49E+04	3.73E+04	1.01E+06	1.02E+05	2.77E+06	2.53E+03	2.77E+06
Te-127	5.41E+03	1.46E+05	5.37E+04	1.45E+06	1.67E+04	4.50E+05	1.98E+05	5.34E+06	5.43E+05	1.47E+07	1.34E+04	1.47E+07
Te-127m	3.66E+02	9.89E+03	3.63E+03	9.81E+04	1.13E+03	3.05E+04	1.34E+04	3.61E+05	3.68E+04	9.94E+05	9.08E+02	9.94E+05
Te-129	1.46E+04	3.95E+05	1.45E+05	3.92E+06	4.50E+04	1.22E+06	5.34E+05	1.44E+07	1.47E+06	3.97E+07	3.63E+04	3.97E+07
Te-129m	2.93E+02	7.91E+03	2.90E+03	7.85E+04	9.02E+02	2.44E+04	1.07E+04	2.89E+05	2.94E+04	7.95E+05	7.26E+02	7.95E+05
Te-131	1.03E+04	2.78E+05	1.02E+05	2.76E+06	3.17E+04	8.56E+05	3.76E+05	1.02E+07	1.03E+06	2.79E+07	2.55E+04	2.79E+07
Te-131m	4.62E+02	1.25E+04	4.59E+03	1.24E+05	1.42E+03	3.85E+04	1.69E+04	4.57E+05	4.65E+04	1.26E+06	1.15E+03	1.26E+06
Te-132	2.32E+02	6.27E+03	2.30E+03	6.23E+04	7.15E+02	1.93E+04	8.48E+03	2.29E+05	2.33E+04	6.30E+05	5.76E+02	6.30E+05
Te-133	1.23E+04	3.33E+05	1.22E+05	3.30E+06	3.79E+04	1.03E+06	4.50E+05	1.22E+07	1.24E+06	3.34E+07	3.06E+04	3.34E+07
Te-133m	3.42E+03	9.24E+04	3.39E+04	9.17E+05	1.05E+04	2.84E+05	1.25E+05	3.38E+06	3.43E+05	9.28E+06	8.48E+03	9.28E+06
Te-134	9.35E+03	2.53E+05	9.28E+04	2.51E+06	2.88E+04	7.79E+05	3.42E+05	9.24E+06	9.40E+05	2.54E+07	2.32E+04	2.54E+07
I-118	4.51E+03	1.22E+05	4.47E+04	1.21E+06	1.39E+04	3.75E+05	1.65E+05	4.45E+06	4.53E+05	1.22E+07	1.12E+04	1.22E+07
I-119	2.16E+04	5.85E+05	2.15E+05	5.80E+06	6.66E+04	1.80E+06	7.91E+05	2.14E+07	2.17E+06	5.88E+07	5.37E+04	5.88E+07
I-120	3.03E+03	8.20E+04	3.01E+04	8.14E+05	9.34E+03	2.53E+05	1.11E+05	3.00E+06	3.05E+05	8.24E+06	7.53E+03	8.24E+06
I-120m	5.92E+03	1.60E+05	5.88E+04	1.59E+06	1.82E+04	4.93E+05	2.16E+05	5.85E+06	5.95E+05	1.61E+07	1.47E+04	1.61E+07

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
I-121	1.24E+04	3.36E+05	1.23E+05	3.34E+06	3.83E+04	1.04E+06	4.55E+05	1.23E+07	1.25E+06	3.38E+07	3.09E+04	3.38E+07
I-123	3.84E+03	1.04E+05	3.81E+04	1.03E+06	1.18E+04	3.20E+05	1.40E+05	3.79E+06	3.86E+05	1.04E+07	9.53E+03	1.04E+07
I-124	6.55E+01	1.77E+03	6.50E+02	1.76E+04	2.02E+02	5.45E+03	2.39E+03	6.47E+04	6.58E+03	1.78E+05	1.62E+02	1.78E+05
I-125	6.58E+01	1.78E+03	6.53E+02	1.77E+04	2.03E+02	5.48E+03	2.41E+03	6.50E+04	6.61E+03	1.79E+05	1.63E+02	1.79E+05
I-126	3.04E+01	8.22E+02	3.02E+02	8.16E+03	9.37E+01	2.53E+03	1.11E+03	3.00E+04	3.06E+03	8.26E+04	7.55E+01	8.26E+04
I-128	2.00E+04	5.40E+05	1.98E+05	5.36E+06	6.15E+04	1.66E+06	7.30E+05	1.97E+07	2.01E+06	5.42E+07	4.95E+04	5.42E+07
I-129	1.03E+01	2.78E+02	1.02E+02	2.76E+03	3.17E+01	8.56E+02	3.76E+02	1.02E+04	1.03E+03	2.79E+04	2.55E+01	2.79E+04
I-130	4.51E+02	1.22E+04	4.47E+03	1.21E+05	1.39E+03	3.75E+04	1.65E+04	4.45E+05	4.53E+04	1.22E+06	1.12E+03	1.22E+06
I-131	3.97E+01	1.07E+03	3.94E+02	1.07E+04	1.22E+02	3.31E+03	1.45E+03	3.92E+04	3.99E+03	1.08E+05	9.86E+01	1.08E+05
I-132	3.07E+03	8.30E+04	3.05E+04	8.24E+05	9.46E+03	2.56E+05	1.12E+05	3.03E+06	3.09E+05	8.34E+06	7.62E+03	8.34E+06
I-132m	4.30E+03	1.16E+05	4.27E+04	1.15E+06	1.33E+04	3.58E+05	1.57E+05	4.25E+06	4.33E+05	1.17E+07	1.07E+04	1.17E+07
I-133	1.88E+02	5.09E+03	1.87E+03	5.06E+04	5.81E+02	1.57E+04	6.89E+03	1.86E+05	1.89E+04	5.12E+05	4.68E+02	5.12E+05
I-134	9.08E+03	2.45E+05	9.01E+04	2.44E+06	2.80E+04	7.56E+05	3.32E+05	8.97E+06	9.12E+05	2.47E+07	2.25E+04	2.47E+07
I-135	9.49E+02	2.57E+04	9.42E+03	2.55E+05	2.92E+03	7.90E+04	3.47E+04	9.38E+05	9.54E+04	2.58E+06	2.36E+03	2.58E+06
Cs-125	2.73E+04	7.37E+05	2.71E+05	7.32E+06	8.40E+04	2.27E+06	9.97E+05	2.69E+07	2.74E+06	7.41E+07	6.77E+04	7.41E+07
Cs-127	4.03E+04	1.09E+06	4.00E+05	1.08E+07	1.24E+05	3.35E+06	1.47E+06	3.98E+07	4.05E+06	1.09E+08	9.99E+04	1.09E+08
Cs-129	1.66E+04	4.48E+05	1.65E+05	4.45E+06	5.11E+04	1.38E+06	6.06E+05	1.64E+07	1.67E+06	4.50E+07	4.12E+04	4.50E+07
Cs-130	3.49E+04	9.44E+05	3.47E+05	9.37E+06	1.08E+05	2.91E+06	1.28E+06	3.45E+07	3.51E+06	9.49E+07	8.67E+04	9.49E+07
Cs-131	1.72E+04	4.66E+05	1.71E+05	4.62E+06	5.31E+04	1.43E+06	6.30E+05	1.70E+07	1.73E+06	4.68E+07	4.27E+04	4.68E+07
Cs-132	2.07E+03	5.60E+04	2.06E+04	5.56E+05	6.39E+03	1.73E+05	7.58E+04	2.05E+06	2.08E+05	5.63E+06	5.14E+03	5.63E+06
Cs-134	6.65E+01	1.80E+03	6.60E+02	1.78E+04	2.05E+02	5.54E+03	2.43E+03	6.57E+04	6.68E+03	1.81E+05	1.65E+02	1.81E+05
Cs-134m	4.77E+04	1.29E+06	4.73E+05	1.28E+07	1.47E+05	3.97E+06	1.74E+06	4.71E+07	4.79E+06	1.29E+08	1.18E+05	1.29E+08
Cs-135	4.71E+02	1.27E+04	4.68E+03	1.26E+05	1.45E+03	3.92E+04	1.72E+04	4.65E+05	4.73E+04	1.28E+06	1.17E+03	1.28E+06

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
Cs-135m	5.25E+04	1.42E+06	5.21E+05	1.41E+07	1.62E+05	4.37E+06	1.92E+06	5.18E+07	5.27E+06	1.43E+08	1.30E+05	1.43E+08
Cs-136	3.61E+02	9.74E+03	3.58E+03	9.67E+04	1.11E+03	3.00E+04	1.32E+04	3.56E+05	3.62E+04	9.79E+05	8.95E+02	9.79E+05
Cs-137	9.35E+01	2.53E+03	9.28E+02	2.51E+04	2.88E+02	7.79E+03	3.42E+03	9.24E+04	9.40E+03	2.54E+05	2.32E+02	2.54E+05
Cs-138	9.72E+03	2.63E+05	9.65E+04	2.61E+06	2.99E+04	8.09E+05	3.55E+05	9.60E+06	9.77E+05	2.64E+07	2.41E+04	2.64E+07
Ba-124	1.35E+04	3.64E+05	1.34E+05	3.62E+06	4.15E+04	1.12E+06	4.92E+05	1.33E+07	1.35E+06	3.66E+07	3.34E+04	3.66E+07
Ba-126	3.70E+03	1.00E+05	3.67E+04	9.93E+05	1.14E+04	3.08E+05	1.35E+05	3.66E+06	3.72E+05	1.01E+07	9.19E+03	1.01E+07
Ba-127	3.79E+04	1.02E+06	3.76E+05	1.02E+07	1.17E+05	3.16E+06	1.39E+06	3.75E+07	3.81E+06	1.03E+08	9.41E+04	1.03E+08
Ba-128	3.49E+02	9.44E+03	3.47E+03	9.37E+04	1.08E+03	2.91E+04	1.28E+04	3.45E+05	3.51E+04	9.49E+05	8.67E+02	9.49E+05
Ba-129	1.99E+04	5.37E+05	1.97E+05	5.33E+06	6.12E+04	1.65E+06	7.26E+05	1.96E+07	2.00E+06	5.40E+07	4.93E+04	5.40E+07
Ba-129m	1.41E+04	3.82E+05	1.40E+05	3.79E+06	4.35E+04	1.18E+06	5.16E+05	1.39E+07	1.42E+06	3.83E+07	3.50E+04	3.83E+07
Ba-131	2.05E+03	5.53E+04	2.03E+04	5.49E+05	6.30E+03	1.70E+05	7.48E+04	2.02E+06	2.06E+05	5.56E+06	5.08E+03	5.56E+06
Ba-131m	1.87E+05	5.05E+06	1.86E+06	5.02E+07	5.76E+05	1.56E+07	6.84E+06	1.85E+08	1.88E+07	5.08E+08	4.64E+05	5.08E+08
Ba-133	5.10E+02	1.38E+04	5.06E+03	1.37E+05	1.57E+03	4.24E+04	1.86E+04	5.03E+05	5.12E+04	1.38E+06	1.26E+03	1.38E+06
Ba-133m	1.73E+03	4.68E+04	1.72E+04	4.64E+05	5.33E+03	1.44E+05	6.32E+04	1.71E+06	1.74E+05	4.70E+06	4.29E+03	4.70E+06
Ba-135m	2.20E+03	5.94E+04	2.18E+04	5.90E+05	6.77E+03	1.83E+05	8.03E+04	2.17E+06	2.21E+05	5.97E+06	5.45E+03	5.97E+06
Ba-139	7.58E+03	2.05E+05	7.53E+04	2.03E+06	2.34E+04	6.31E+05	2.77E+05	7.49E+06	7.62E+05	2.06E+07	1.88E+04	2.06E+07
Ba-140	3.43E+02	9.26E+03	3.40E+03	9.19E+04	1.06E+03	2.85E+04	1.25E+04	3.38E+05	3.44E+04	9.31E+05	8.50E+02	9.31E+05
Ba-141	1.26E+04	3.41E+05	1.25E+05	3.39E+06	3.89E+04	1.05E+06	4.61E+05	1.25E+07	1.27E+06	3.43E+07	3.13E+04	3.43E+07
Ba-142	2.79E+04	7.54E+05	2.77E+05	7.48E+06	8.59E+04	2.32E+06	1.02E+06	2.75E+07	2.80E+06	7.57E+07	6.92E+04	7.57E+07
La-129	3.52E+04	9.52E+05	3.50E+05	9.45E+06	1.09E+05	2.93E+06	1.29E+06	3.48E+07	3.54E+06	9.57E+07	8.74E+04	9.57E+07
La-131	2.83E+04	7.66E+05	2.81E+05	7.60E+06	8.73E+04	2.36E+06	1.04E+06	2.80E+07	2.85E+06	7.70E+07	7.03E+04	7.70E+07
La-132	2.30E+03	6.21E+04	2.28E+04	6.17E+05	7.08E+03	1.91E+05	8.40E+04	2.27E+06	2.31E+05	6.24E+06	5.71E+03	6.24E+06
La-132m	2.58E+04	6.96E+05	2.56E+05	6.91E+06	7.93E+04	2.14E+06	9.41E+05	2.54E+07	2.59E+06	6.99E+07	6.39E+04	6.99E+07

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
La-133	2.95E+04	7.98E+05	2.93E+05	7.93E+06	9.10E+04	2.46E+06	1.08E+06	2.92E+07	2.97E+06	8.02E+07	7.33E+04	8.02E+07
La-135	3.02E+04	8.16E+05	3.00E+05	8.10E+06	9.30E+04	2.51E+06	1.10E+06	2.98E+07	3.03E+06	8.20E+07	7.49E+04	8.20E+07
La-137	1.12E+04	3.03E+05	1.11E+05	3.01E+06	3.45E+04	9.33E+05	4.10E+05	1.11E+07	1.13E+06	3.04E+07	2.78E+04	3.04E+07
La-138	9.08E+02	2.45E+04	9.01E+03	2.44E+05	2.80E+03	7.56E+04	3.32E+04	8.97E+05	9.12E+04	2.47E+06	2.25E+03	2.47E+06
La-140	4.66E+02	1.26E+04	4.62E+03	1.25E+05	1.43E+03	3.88E+04	1.70E+04	4.60E+05	4.68E+04	1.27E+06	1.16E+03	1.27E+06
La-141	2.44E+03	6.59E+04	2.42E+04	6.54E+05	7.51E+03	2.03E+05	8.91E+04	2.41E+06	2.45E+05	6.62E+06	6.05E+03	6.62E+06
La-142	5.38E+03	1.46E+05	5.34E+04	1.44E+06	1.66E+04	4.48E+05	1.97E+05	5.32E+06	5.41E+05	1.46E+07	1.34E+04	1.46E+07
La-143	1.66E+04	4.48E+05	1.64E+05	4.44E+06	5.10E+04	1.38E+06	6.05E+05	1.64E+07	1.66E+06	4.50E+07	4.11E+04	4.50E+07
Ce-130	1.33E+04	3.59E+05	1.32E+05	3.56E+06	4.09E+04	1.11E+06	4.85E+05	1.31E+07	1.33E+06	3.61E+07	3.29E+04	3.61E+07
Ce-131	3.44E+04	9.29E+05	3.41E+05	9.22E+06	1.06E+05	2.86E+06	1.26E+06	3.39E+07	3.45E+06	9.33E+07	8.53E+04	9.33E+07
Ce-132	2.81E+03	7.61E+04	2.79E+04	7.55E+05	8.67E+03	2.34E+05	1.03E+05	2.78E+06	2.83E+05	7.64E+06	6.98E+03	7.64E+06
Ce-133	1.03E+04	2.78E+05	1.02E+05	2.76E+06	3.17E+04	8.56E+05	3.76E+05	1.02E+07	1.03E+06	2.79E+07	2.55E+04	2.79E+07
Ce-133m	4.62E+03	1.25E+05	4.59E+04	1.24E+06	1.42E+04	3.85E+05	1.69E+05	4.57E+06	4.65E+05	1.26E+07	1.15E+04	1.26E+07
Ce-134	3.43E+02	9.26E+03	3.40E+03	9.19E+04	1.06E+03	2.85E+04	1.25E+04	3.38E+05	3.44E+04	9.31E+05	8.50E+02	9.31E+05
Ce-135	3.71E+03	1.00E+05	3.69E+04	9.96E+05	1.14E+04	3.09E+05	1.36E+05	3.67E+06	3.73E+05	1.01E+07	9.21E+03	1.01E+07
Ce-137	3.48E+04	9.42E+05	3.46E+05	9.35E+06	1.07E+05	2.90E+06	1.27E+06	3.44E+07	3.50E+06	9.46E+07	8.65E+04	9.46E+07
Ce-137m	1.64E+03	4.43E+04	1.63E+04	4.40E+05	5.05E+03	1.36E+05	5.99E+04	1.62E+06	1.65E+05	4.45E+06	4.07E+03	4.45E+06
Ce-139	3.55E+03	9.60E+04	3.53E+04	9.53E+05	1.09E+04	2.96E+05	1.30E+05	3.51E+06	3.57E+05	9.65E+06	8.82E+03	9.65E+06
Ce-141	1.27E+03	3.44E+04	1.26E+04	3.41E+05	3.92E+03	1.06E+05	4.65E+04	1.26E+06	1.28E+05	3.45E+06	3.16E+03	3.45E+06
Ce-143	8.08E+02	2.18E+04	8.02E+03	2.17E+05	2.49E+03	6.72E+04	2.95E+04	7.98E+05	8.12E+04	2.19E+06	2.00E+03	2.19E+06
Ce-144	1.72E+02	4.64E+03	1.70E+03	4.60E+04	5.28E+02	1.43E+04	6.27E+03	1.69E+05	1.72E+04	4.66E+05	4.26E+02	4.66E+05
Pr-134	1.93E+04	5.20E+05	1.91E+05	5.17E+06	5.93E+04	1.60E+06	7.04E+05	1.90E+07	1.93E+06	5.23E+07	4.78E+04	5.23E+07
Pr-134m	1.11E+04	3.00E+05	1.10E+05	2.98E+06	3.42E+04	9.25E+05	4.06E+05	1.10E+07	1.12E+06	3.02E+07	2.76E+04	3.02E+07

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
Pr-135	2.17E+04	5.87E+05	2.15E+05	5.82E+06	6.69E+04	1.81E+06	7.93E+05	2.14E+07	2.18E+06	5.90E+07	5.39E+04	5.90E+07
Pr-136	2.78E+04	7.52E+05	2.76E+05	7.46E+06	8.57E+04	2.32E+06	1.02E+06	2.75E+07	2.80E+06	7.56E+07	6.90E+04	7.56E+07
Pr-137	2.55E+04	6.90E+05	2.54E+05	6.85E+06	7.87E+04	2.13E+06	9.33E+05	2.52E+07	2.57E+06	6.94E+07	6.34E+04	6.94E+07
Pr-138m	7.45E+03	2.01E+05	7.39E+04	2.00E+06	2.29E+04	6.20E+05	2.72E+05	7.36E+06	7.49E+05	2.02E+07	1.85E+04	2.02E+07
Pr-139	2.87E+04	7.75E+05	2.84E+05	7.69E+06	8.83E+04	2.39E+06	1.05E+06	2.83E+07	2.88E+06	7.78E+07	7.11E+04	7.78E+07
Pr-142	6.83E+02	1.85E+04	6.78E+03	1.83E+05	2.11E+03	5.69E+04	2.50E+04	6.75E+05	6.87E+04	1.86E+06	1.70E+03	1.86E+06
Pr-142m	5.36E+04	1.45E+06	5.32E+05	1.44E+07	1.65E+05	4.46E+06	1.96E+06	5.30E+07	5.39E+06	1.46E+08	1.33E+05	1.46E+08
Pr-143	7.68E+02	2.08E+04	7.62E+03	2.06E+05	2.37E+03	6.39E+04	2.81E+04	7.58E+05	7.72E+04	2.09E+06	1.91E+03	2.09E+06
Pr-144	1.82E+04	4.93E+05	1.81E+05	4.89E+06	5.62E+04	1.52E+06	6.66E+05	1.80E+07	1.83E+06	4.95E+07	4.53E+04	4.95E+07
Pr-145	2.29E+03	6.18E+04	2.27E+04	6.13E+05	7.04E+03	1.90E+05	8.36E+04	2.26E+06	2.30E+05	6.21E+06	5.67E+03	6.21E+06
Pr-146	1.20E+04	3.23E+05	1.19E+05	3.21E+06	3.68E+04	9.96E+05	4.37E+05	1.18E+07	1.20E+06	3.25E+07	2.97E+04	3.25E+07
Pr-147	2.75E+04	7.44E+05	2.73E+05	7.38E+06	8.48E+04	2.29E+06	1.01E+06	2.72E+07	2.77E+06	7.47E+07	6.83E+04	7.47E+07
Nd-135	1.60E+04	4.33E+05	1.59E+05	4.29E+06	4.93E+04	1.33E+06	5.85E+05	1.58E+07	1.61E+06	4.35E+07	3.97E+04	4.35E+07
Nd-136	9.57E+03	2.59E+05	9.50E+04	2.57E+06	2.95E+04	7.97E+05	3.50E+05	9.45E+06	9.62E+05	2.60E+07	2.37E+04	2.60E+07
Nd-137	1.77E+04	4.78E+05	1.76E+05	4.75E+06	5.45E+04	1.47E+06	6.47E+05	1.75E+07	1.78E+06	4.81E+07	4.39E+04	4.81E+07
Nd-138	1.43E+03	3.86E+04	1.42E+04	3.83E+05	4.40E+03	1.19E+05	5.22E+04	1.41E+06	1.44E+05	3.88E+06	3.54E+03	3.88E+06
Nd-139	4.56E+04	1.23E+06	4.52E+05	1.22E+07	1.40E+05	3.79E+06	1.67E+06	4.50E+07	4.58E+06	1.24E+08	1.13E+05	1.24E+08
Nd-139m	4.01E+03	1.08E+05	3.98E+04	1.08E+06	1.24E+04	3.34E+05	1.47E+05	3.96E+06	4.03E+05	1.09E+07	9.96E+03	1.09E+07
Nd-140	4.59E+02	1.24E+04	4.56E+03	1.23E+05	1.41E+03	3.82E+04	1.68E+04	4.53E+05	4.61E+04	1.25E+06	1.14E+03	1.25E+06
Nd-141	1.10E+05	2.97E+06	1.09E+06	2.95E+07	3.39E+05	9.16E+06	4.02E+06	1.09E+08	1.11E+07	2.99E+08	2.73E+05	2.99E+08
Nd-144	2.36E+01	6.37E+02	2.34E+02	6.32E+03	7.26E+01	1.96E+03	8.61E+02	2.33E+04	2.37E+03	6.40E+04	5.85E+01	6.40E+04
Nd-147	8.40E+02	2.27E+04	8.34E+03	2.25E+05	2.59E+03	7.00E+04	3.07E+04	8.30E+05	8.45E+04	2.28E+06	2.09E+03	2.28E+06
Nd-149	7.36E+03	1.99E+05	7.31E+04	1.97E+06	2.27E+04	6.13E+05	2.69E+05	7.27E+06	7.40E+05	2.00E+07	1.83E+04	2.00E+07

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
Nd-151	3.26E+04	8.80E+05	3.23E+05	8.73E+06	1.00E+05	2.71E+06	1.19E+06	3.22E+07	3.27E+06	8.84E+07	8.08E+04	8.84E+07
Nd-152	1.91E+04	5.17E+05	1.90E+05	5.13E+06	5.89E+04	1.59E+06	6.99E+05	1.89E+07	1.92E+06	5.20E+07	4.75E+04	5.20E+07
Pm-141	2.67E+04	7.21E+05	2.65E+05	7.16E+06	8.22E+04	2.22E+06	9.75E+05	2.64E+07	2.68E+06	7.25E+07	6.62E+04	7.25E+07
Pm-143	4.15E+03	1.12E+05	4.12E+04	1.11E+06	1.28E+04	3.45E+05	1.52E+05	4.10E+06	4.17E+05	1.13E+07	1.03E+04	1.13E+07
Pm-144	1.00E+03	2.71E+04	9.96E+03	2.69E+05	3.09E+03	8.35E+04	3.67E+04	9.91E+05	1.01E+05	2.72E+06	2.49E+03	2.72E+06
Pm-145	8.40E+03	2.27E+05	8.34E+04	2.25E+06	2.59E+04	7.00E+05	3.07E+05	8.30E+06	8.45E+05	2.28E+07	2.09E+04	2.28E+07
Pm-146	1.05E+03	2.85E+04	1.05E+04	2.83E+05	3.25E+03	8.78E+04	3.85E+04	1.04E+06	1.06E+05	2.86E+06	2.62E+03	2.86E+06
Pm-147	3.43E+03	9.26E+04	3.40E+04	9.19E+05	1.06E+04	2.85E+05	1.25E+05	3.38E+06	3.44E+05	9.31E+06	8.50E+03	9.31E+06
Pm-148	3.38E+02	9.13E+03	3.35E+03	9.07E+04	1.04E+03	2.81E+04	1.24E+04	3.34E+05	3.40E+04	9.18E+05	8.39E+02	9.18E+05
Pm-148m	5.46E+02	1.47E+04	5.41E+03	1.46E+05	1.68E+03	4.54E+04	1.99E+04	5.39E+05	5.48E+04	1.48E+06	1.35E+03	1.48E+06
Pm-149	9.08E+02	2.45E+04	9.01E+03	2.44E+05	2.80E+03	7.56E+04	3.32E+04	8.97E+05	9.12E+04	2.47E+06	2.25E+03	2.47E+06
Pm-150	3.56E+03	9.63E+04	3.54E+04	9.56E+05	1.10E+04	2.97E+05	1.30E+05	3.52E+06	3.58E+05	9.68E+06	8.84E+03	9.68E+06
Pm-151	1.25E+03	3.37E+04	1.24E+04	3.35E+05	3.84E+03	1.04E+05	4.56E+04	1.23E+06	1.25E+05	3.39E+06	3.10E+03	3.39E+06
Sm-140	9.64E+03	2.61E+05	9.57E+04	2.59E+06	2.97E+04	8.03E+05	3.52E+05	9.52E+06	9.69E+05	2.62E+07	2.39E+04	2.62E+07
Sm-141	2.42E+04	6.54E+05	2.40E+05	6.49E+06	7.45E+04	2.01E+06	8.84E+05	2.39E+07	2.43E+06	6.57E+07	6.00E+04	6.57E+07
Sm-141m	1.52E+04	4.11E+05	1.51E+05	4.08E+06	4.68E+04	1.27E+06	5.56E+05	1.50E+07	1.53E+06	4.13E+07	3.77E+04	4.13E+07
Sm-142	5.12E+03	1.38E+05	5.08E+04	1.37E+06	1.58E+04	4.26E+05	1.87E+05	5.06E+06	5.14E+05	1.39E+07	1.27E+04	1.39E+07
Sm-145	4.35E+03	1.18E+05	4.32E+04	1.17E+06	1.34E+04	3.62E+05	1.59E+05	4.30E+06	4.37E+05	1.18E+07	1.08E+04	1.18E+07
Sm-146	1.77E+01	4.80E+02	1.76E+02	4.76E+03	5.47E+01	1.48E+03	6.48E+02	1.75E+04	1.78E+03	4.82E+04	4.40E+01	4.82E+04
Sm-147	1.94E+01	5.25E+02	1.93E+02	5.21E+03	5.99E+01	1.62E+03	7.10E+02	1.92E+04	1.95E+03	5.28E+04	4.82E+01	5.28E+04
Sm-148	2.26E+01	6.11E+02	2.24E+02	6.07E+03	6.97E+01	1.88E+03	8.26E+02	2.23E+04	2.27E+03	6.14E+04	5.61E+01	6.14E+04
Sm-151	9.21E+03	2.49E+05	9.14E+04	2.47E+06	2.84E+04	7.67E+05	3.37E+05	9.10E+06	9.26E+05	2.50E+07	2.29E+04	2.50E+07
Sm-153	1.23E+03	3.33E+04	1.22E+04	3.30E+05	3.79E+03	1.03E+05	4.50E+04	1.22E+06	1.24E+05	3.34E+06	3.06E+03	3.34E+06

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
Sm-155	3.14E+04	8.49E+05	3.12E+05	8.43E+06	9.68E+04	2.61E+06	1.15E+06	3.10E+07	3.16E+06	8.53E+07	7.79E+04	8.53E+07
Sm-156	3.57E+03	9.66E+04	3.55E+04	9.59E+05	1.10E+04	2.98E+05	1.31E+05	3.53E+06	3.59E+05	9.71E+06	8.87E+03	9.71E+06
Eu-145	1.49E+03	4.02E+04	1.48E+04	3.99E+05	4.58E+03	1.24E+05	5.44E+04	1.47E+06	1.50E+05	4.04E+06	3.69E+03	4.04E+06
Eu-146	8.24E+02	2.23E+04	8.18E+03	2.21E+05	2.54E+03	6.86E+04	3.01E+04	8.14E+05	8.28E+04	2.24E+06	2.04E+03	2.24E+06
Eu-147	2.17E+03	5.86E+04	2.15E+04	5.81E+05	6.67E+03	1.80E+05	7.92E+04	2.14E+06	2.18E+05	5.89E+06	5.38E+03	5.89E+06
Eu-148	7.68E+02	2.08E+04	7.62E+03	2.06E+05	2.37E+03	6.39E+04	2.81E+04	7.58E+05	7.72E+04	2.09E+06	1.91E+03	2.09E+06
Eu-149	5.79E+03	1.56E+05	5.74E+04	1.55E+06	1.78E+04	4.82E+05	2.11E+05	5.71E+06	5.81E+05	1.57E+07	1.44E+04	1.57E+07
Eu-150	7.92E+02	2.14E+04	7.86E+03	2.13E+05	2.44E+03	6.60E+04	2.90E+04	7.82E+05	7.96E+04	2.15E+06	1.97E+03	2.15E+06
Eu-150m	2.36E+03	6.38E+04	2.34E+04	6.33E+05	7.27E+03	1.96E+05	8.63E+04	2.33E+06	2.37E+05	6.41E+06	5.86E+03	6.41E+06
Eu-152	7.15E+02	1.93E+04	7.10E+03	1.92E+05	2.20E+03	5.95E+04	2.61E+04	7.06E+05	7.18E+04	1.94E+06	1.77E+03	1.94E+06
Eu-152m	1.82E+03	4.93E+04	1.81E+04	4.89E+05	5.62E+03	1.52E+05	6.66E+04	1.80E+06	1.83E+05	4.95E+06	4.53E+03	4.95E+06
Eu-152n	7.07E+04	1.91E+06	7.01E+05	1.90E+07	2.18E+05	5.88E+06	2.58E+06	6.98E+07	7.10E+06	1.92E+08	1.75E+05	1.92E+08
Eu-154	4.77E+02	1.29E+04	4.73E+03	1.28E+05	1.47E+03	3.97E+04	1.74E+04	4.71E+05	4.79E+04	1.29E+06	1.18E+03	1.29E+06
Eu-154m	1.17E+05	3.17E+06	1.16E+06	3.15E+07	3.61E+05	9.77E+06	4.29E+06	1.16E+08	1.18E+07	3.19E+08	2.91E+05	3.19E+08
Eu-155	2.75E+03	7.44E+04	2.73E+04	7.38E+05	8.48E+03	2.29E+05	1.01E+05	2.72E+06	2.77E+05	7.47E+06	6.83E+03	7.47E+06
Eu-156	4.05E+02	1.09E+04	4.02E+03	1.09E+05	1.25E+03	3.37E+04	1.48E+04	4.00E+05	4.07E+04	1.10E+06	1.01E+03	1.10E+06
Eu-157	1.49E+03	4.02E+04	1.47E+04	3.99E+05	4.58E+03	1.24E+05	5.43E+04	1.47E+06	1.49E+05	4.04E+06	3.69E+03	4.04E+06
Eu-158	1.03E+04	2.78E+05	1.02E+05	2.76E+06	3.17E+04	8.56E+05	3.76E+05	1.02E+07	1.03E+06	2.79E+07	2.55E+04	2.79E+07
Eu-159	1.89E+04	5.12E+05	1.88E+05	5.08E+06	5.83E+04	1.58E+06	6.92E+05	1.87E+07	1.90E+06	5.14E+07	4.70E+04	5.14E+07
Gd-145	2.83E+04	7.64E+05	2.81E+05	7.58E+06	8.71E+04	2.35E+06	1.03E+06	2.79E+07	2.84E+06	7.68E+07	7.01E+04	7.68E+07
Gd-146	9.87E+02	2.67E+04	9.80E+03	2.65E+05	3.04E+03	8.22E+04	3.61E+04	9.75E+05	9.92E+04	2.68E+06	2.45E+03	2.68E+06
Gd-147	1.53E+03	4.12E+04	1.51E+04	4.09E+05	4.70E+03	1.27E+05	5.58E+04	1.51E+06	1.53E+05	4.15E+06	3.79E+03	4.15E+06
Gd-148	1.73E+01	4.68E+02	1.72E+02	4.64E+03	5.33E+01	1.44E+03	6.32E+02	1.71E+04	1.74E+03	4.70E+04	4.29E+01	4.70E+04

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
Gd-149	1.74E+03	4.70E+04	1.73E+04	4.67E+05	5.36E+03	1.45E+05	6.36E+04	1.72E+06	1.75E+05	4.73E+06	4.32E+03	4.73E+06
Gd-150	1.83E+01	4.96E+02	1.82E+02	4.92E+03	5.65E+01	1.53E+03	6.70E+02	1.81E+04	1.84E+03	4.98E+04	4.55E+01	4.98E+04
Gd-151	4.05E+03	1.09E+05	4.02E+04	1.09E+06	1.25E+04	3.37E+05	1.48E+05	4.00E+06	4.07E+05	1.10E+07	1.01E+04	1.10E+07
Gd-152	2.34E+01	6.32E+02	2.32E+02	6.27E+03	7.20E+01	1.95E+03	8.54E+02	2.31E+04	2.35E+03	6.35E+04	5.80E+01	6.35E+04
Gd-153	3.33E+03	8.99E+04	3.30E+04	8.92E+05	1.02E+04	2.77E+05	1.22E+05	3.28E+06	3.34E+05	9.03E+06	8.25E+03	9.03E+06
Gd-159	1.79E+03	4.84E+04	1.78E+04	4.80E+05	5.51E+03	1.49E+05	6.54E+04	1.77E+06	1.80E+05	4.86E+06	4.44E+03	4.86E+06
Tb-147	7.68E+03	2.08E+05	7.62E+04	2.06E+06	2.37E+04	6.39E+05	2.81E+05	7.58E+06	7.72E+05	2.09E+07	1.91E+04	2.09E+07
Tb-148	7.63E+03	2.06E+05	7.57E+04	2.05E+06	2.35E+04	6.35E+05	2.79E+05	7.54E+06	7.67E+05	2.07E+07	1.89E+04	2.07E+07
Tb-149	5.18E+03	1.40E+05	5.14E+04	1.39E+06	1.60E+04	4.31E+05	1.89E+05	5.12E+06	5.21E+05	1.41E+07	1.29E+04	1.41E+07
Tb-150	4.43E+03	1.20E+05	4.39E+04	1.19E+06	1.36E+04	3.69E+05	1.62E+05	4.37E+06	4.45E+05	1.20E+07	1.10E+04	1.20E+07
Tb-151	2.67E+03	7.21E+04	2.65E+04	7.16E+05	8.22E+03	2.22E+05	9.75E+04	2.64E+06	2.68E+05	7.25E+06	6.62E+03	7.25E+06
Tb-152	1.35E+03	3.66E+04	1.34E+04	3.63E+05	4.17E+03	1.13E+05	4.95E+04	1.34E+06	1.36E+05	3.68E+06	3.36E+03	3.68E+06
Tb-153	3.29E+03	8.89E+04	3.27E+04	8.83E+05	1.01E+04	2.74E+05	1.20E+05	3.25E+06	3.31E+05	8.94E+06	8.17E+03	8.94E+06
Tb-154	1.57E+03	4.24E+04	1.56E+04	4.21E+05	4.84E+03	1.31E+05	5.74E+04	1.55E+06	1.58E+05	4.27E+06	3.90E+03	4.27E+06
Tb-155	3.54E+03	9.58E+04	3.52E+04	9.51E+05	1.09E+04	2.95E+05	1.30E+05	3.50E+06	3.56E+05	9.63E+06	8.79E+03	9.63E+06
Tb-156	8.40E+02	2.27E+04	8.34E+03	2.25E+05	2.59E+03	7.00E+04	3.07E+04	8.30E+05	8.45E+04	2.28E+06	2.09E+03	2.28E+06
Tb-156m	5.84E+03	1.58E+05	5.80E+04	1.57E+06	1.80E+04	4.86E+05	2.13E+05	5.77E+06	5.87E+05	1.59E+07	1.45E+04	1.59E+07
Tb-156n	1.07E+04	2.90E+05	1.06E+05	2.88E+06	3.30E+04	8.93E+05	3.92E+05	1.06E+07	1.08E+06	2.91E+07	2.66E+04	2.91E+07
Tb-157	2.36E+04	6.38E+05	2.34E+05	6.33E+06	7.27E+04	1.96E+06	8.63E+05	2.33E+07	2.37E+06	6.41E+07	5.86E+04	6.41E+07
Tb-158	8.58E+02	2.32E+04	8.51E+03	2.30E+05	2.64E+03	7.14E+04	3.13E+04	8.47E+05	8.62E+04	2.33E+06	2.13E+03	2.33E+06
Tb-160	5.79E+02	1.56E+04	5.74E+03	1.55E+05	1.78E+03	4.82E+04	2.11E+04	5.71E+05	5.81E+04	1.57E+06	1.44E+03	1.57E+06
Tb-161	1.22E+03	3.30E+04	1.21E+04	3.27E+05	3.76E+03	1.02E+05	4.46E+04	1.20E+06	1.23E+05	3.31E+06	3.03E+03	3.31E+06
Tb-163	4.43E+04	1.20E+06	4.39E+05	1.19E+07	1.36E+05	3.69E+06	1.62E+06	4.37E+07	4.45E+06	1.20E+08	1.10E+05	1.20E+08

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
Dy-151	4.94E+04	1.33E+06	4.90E+05	1.32E+07	1.52E+05	4.11E+06	1.80E+06	4.88E+07	4.96E+06	1.34E+08	1.22E+05	1.34E+08
Dy-152	8.76E+03	2.37E+05	8.69E+04	2.35E+06	2.70E+04	7.29E+05	3.20E+05	8.65E+06	8.80E+05	2.38E+07	2.17E+04	2.38E+07
Dy-153	5.36E+03	1.45E+05	5.32E+04	1.44E+06	1.65E+04	4.46E+05	1.96E+05	5.30E+06	5.39E+05	1.46E+07	1.33E+04	1.46E+07
Dy-154	1.71E+01	4.62E+02	1.70E+02	4.59E+03	5.27E+01	1.42E+03	6.25E+02	1.69E+04	1.72E+03	4.65E+04	4.25E+01	4.65E+04
Dy-155	6.76E+03	1.83E+05	6.71E+04	1.81E+06	2.08E+04	5.63E+05	2.47E+05	6.68E+06	6.79E+05	1.84E+07	1.68E+04	1.84E+07
Dy-157	1.60E+04	4.33E+05	1.59E+05	4.30E+06	4.94E+04	1.33E+06	5.86E+05	1.58E+07	1.61E+06	4.35E+07	3.98E+04	4.35E+07
Dy-159	8.82E+03	2.38E+05	8.76E+04	2.37E+06	2.72E+04	7.34E+05	3.22E+05	8.71E+06	8.87E+05	2.40E+07	2.19E+04	2.40E+07
Dy-165	8.35E+03	2.26E+05	8.29E+04	2.24E+06	2.57E+04	6.95E+05	3.05E+05	8.24E+06	8.39E+05	2.27E+07	2.07E+04	2.27E+07
Dy-166	5.43E+02	1.47E+04	5.39E+03	1.46E+05	1.67E+03	4.52E+04	1.98E+04	5.36E+05	5.46E+04	1.48E+06	1.35E+03	1.48E+06
Ho-154	2.30E+04	6.23E+05	2.29E+05	6.18E+06	7.10E+04	1.92E+06	8.42E+05	2.28E+07	2.31E+06	6.26E+07	5.72E+04	6.26E+07
Ho-155	2.42E+04	6.55E+05	2.41E+05	6.50E+06	7.47E+04	2.02E+06	8.86E+05	2.39E+07	2.44E+06	6.59E+07	6.02E+04	6.59E+07
Ho-156	9.79E+03	2.65E+05	9.72E+04	2.63E+06	3.02E+04	8.15E+05	3.58E+05	9.67E+06	9.84E+05	2.66E+07	2.43E+04	2.66E+07
Ho-157	1.33E+05	3.61E+06	1.32E+06	3.58E+07	4.11E+05	1.11E+07	4.88E+06	1.32E+08	1.34E+07	3.62E+08	3.31E+05	3.62E+08
Ho-159	1.14E+05	3.08E+06	1.13E+06	3.06E+07	3.52E+05	9.50E+06	4.17E+06	1.13E+08	1.15E+07	3.10E+08	2.83E+05	3.10E+08
Ho-160	5.84E+04	1.58E+06	5.80E+05	1.57E+07	1.80E+05	4.86E+06	2.13E+06	5.77E+07	5.87E+06	1.59E+08	1.45E+05	1.59E+08
Ho-161	7.27E+04	1.97E+06	7.22E+05	1.95E+07	2.24E+05	6.06E+06	2.66E+06	7.18E+07	7.31E+06	1.98E+08	1.80E+05	1.98E+08
Ho-162	2.93E+05	7.93E+06	2.91E+06	7.87E+07	9.04E+05	2.44E+07	1.07E+07	2.90E+08	2.95E+07	7.97E+08	7.28E+05	7.97E+08
Ho-162m	3.80E+04	1.03E+06	3.78E+05	1.02E+07	1.17E+05	3.17E+06	1.39E+06	3.76E+07	3.82E+06	1.03E+08	9.44E+04	1.03E+08
Ho-163	3.11E+05	8.40E+06	3.09E+06	8.34E+07	9.58E+05	2.59E+07	1.14E+07	3.07E+08	3.13E+07	8.45E+08	7.72E+05	8.45E+08
Ho-164	9.79E+04	2.65E+06	9.72E+05	2.63E+07	3.02E+05	8.15E+06	3.58E+06	9.67E+07	9.84E+06	2.66E+08	2.43E+05	2.66E+08
Ho-164m	5.58E+04	1.51E+06	5.54E+05	1.50E+07	1.72E+05	4.64E+06	2.04E+06	5.51E+07	5.61E+06	1.51E+08	1.38E+05	1.51E+08
Ho-166	6.44E+02	1.74E+04	6.40E+03	1.73E+05	1.99E+03	5.37E+04	2.36E+04	6.37E+05	6.48E+04	1.75E+06	1.60E+03	1.75E+06
Ho-166m	4.88E+02	1.32E+04	4.84E+03	1.31E+05	1.50E+03	4.06E+04	1.78E+04	4.82E+05	4.90E+04	1.32E+06	1.21E+03	1.32E+06

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
Ho-167	1.06E+04	2.87E+05	1.06E+05	2.85E+06	3.27E+04	8.85E+05	3.89E+05	1.05E+07	1.07E+06	2.89E+07	2.64E+04	2.89E+07
Er-156	2.75E+04	7.44E+05	2.73E+05	7.38E+06	8.48E+04	2.29E+06	1.01E+06	2.72E+07	2.77E+06	7.47E+07	6.83E+04	7.47E+07
Er-159	4.26E+04	1.15E+06	4.23E+05	1.14E+07	1.31E+05	3.55E+06	1.56E+06	4.21E+07	4.28E+06	1.16E+08	1.06E+05	1.16E+08
Er-161	1.15E+04	3.11E+05	1.14E+05	3.09E+06	3.55E+04	9.59E+05	4.21E+05	1.14E+07	1.16E+06	3.13E+07	2.86E+04	3.13E+07
Er-163	3.67E+05	9.92E+06	3.64E+06	9.84E+07	1.13E+06	3.05E+07	1.34E+07	3.62E+08	3.69E+07	9.97E+08	9.10E+05	9.97E+08
Er-165	4.84E+04	1.31E+06	4.80E+05	1.30E+07	1.49E+05	4.03E+06	1.77E+06	4.78E+07	4.86E+06	1.31E+08	1.20E+05	1.31E+08
Er-169	2.41E+03	6.51E+04	2.39E+04	6.47E+05	7.43E+03	2.01E+05	8.81E+04	2.38E+06	2.42E+05	6.55E+06	5.98E+03	6.55E+06
Er-171	2.56E+03	6.93E+04	2.55E+04	6.88E+05	7.90E+03	2.14E+05	9.37E+04	2.53E+06	2.58E+05	6.97E+06	6.36E+03	6.97E+06
Er-172	8.88E+02	2.40E+04	8.82E+03	2.38E+05	2.74E+03	7.40E+04	3.25E+04	8.78E+05	8.93E+04	2.41E+06	2.20E+03	2.41E+06
Tm-161	2.46E+04	6.66E+05	2.44E+05	6.61E+06	7.59E+04	2.05E+06	9.00E+05	2.43E+07	2.48E+06	6.69E+07	6.11E+04	6.69E+07
Tm-162	2.41E+04	6.50E+05	2.39E+05	6.45E+06	7.41E+04	2.00E+06	8.79E+05	2.38E+07	2.42E+06	6.53E+07	5.97E+04	6.53E+07
Tm-163	1.78E+04	4.82E+05	1.77E+05	4.79E+06	5.50E+04	1.49E+06	6.52E+05	1.76E+07	1.79E+06	4.85E+07	4.43E+04	4.85E+07
Tm-165	2.67E+03	7.23E+04	2.65E+04	7.18E+05	8.24E+03	2.23E+05	9.78E+04	2.64E+06	2.69E+05	7.27E+06	6.64E+03	7.27E+06
Tm-166	3.44E+03	9.29E+04	3.41E+04	9.22E+05	1.06E+04	2.86E+05	1.26E+05	3.39E+06	3.45E+05	9.33E+06	8.53E+03	9.33E+06
Tm-167	1.57E+03	4.25E+04	1.56E+04	4.22E+05	4.84E+03	1.31E+05	5.75E+04	1.55E+06	1.58E+05	4.27E+06	3.90E+03	4.27E+06
Tm-168	9.28E+02	2.51E+04	9.21E+03	2.49E+05	2.86E+03	7.73E+04	3.39E+04	9.17E+05	9.33E+04	2.52E+06	2.30E+03	2.52E+06
Tm-170	6.87E+02	1.86E+04	6.82E+03	1.84E+05	2.12E+03	5.72E+04	2.51E+04	6.79E+05	6.91E+04	1.87E+06	1.71E+03	1.87E+06
Tm-171	8.40E+03	2.27E+05	8.34E+04	2.25E+06	2.59E+04	7.00E+05	3.07E+05	8.30E+06	8.45E+05	2.28E+07	2.09E+04	2.28E+07
Tm-172	5.36E+02	1.45E+04	5.32E+03	1.44E+05	1.65E+03	4.46E+04	1.96E+04	5.30E+05	5.39E+04	1.46E+06	1.33E+03	1.46E+06
Tm-173	3.06E+03	8.26E+04	3.03E+04	8.20E+05	9.41E+03	2.54E+05	1.12E+05	3.02E+06	3.07E+05	8.30E+06	7.58E+03	8.30E+06
Tm-175	3.64E+04	9.83E+05	3.61E+05	9.76E+06	1.12E+05	3.03E+06	1.33E+06	3.59E+07	3.65E+06	9.88E+07	9.02E+04	9.88E+07
Yb-162	3.07E+04	8.30E+05	3.05E+05	8.24E+06	9.46E+04	2.56E+06	1.12E+06	3.03E+07	3.09E+06	8.34E+07	7.62E+04	8.34E+07
Yb-163	6.01E+04	1.62E+06	5.96E+05	1.61E+07	1.85E+05	5.00E+06	2.20E+06	5.93E+07	6.04E+06	1.63E+08	1.49E+05	1.63E+08

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
Yb-164	1.02E+04	2.76E+05	1.01E+05	2.73E+06	3.14E+04	8.49E+05	3.73E+05	1.01E+07	1.02E+06	2.77E+07	2.53E+04	2.77E+07
Yb-166	1.01E+03	2.73E+04	1.00E+04	2.71E+05	3.11E+03	8.42E+04	3.70E+04	9.99E+05	1.02E+05	2.75E+06	2.51E+03	2.75E+06
Yb-167	1.38E+05	3.73E+06	1.37E+06	3.70E+07	4.25E+05	1.15E+07	5.04E+06	1.36E+08	1.39E+07	3.75E+08	3.43E+05	3.75E+08
Yb-169	1.13E+03	3.06E+04	1.12E+04	3.03E+05	3.48E+03	9.41E+04	4.13E+04	1.12E+06	1.14E+05	3.07E+06	2.81E+03	3.07E+06
Yb-175	2.06E+03	5.57E+04	2.05E+04	5.53E+05	6.35E+03	1.72E+05	7.54E+04	2.04E+06	2.07E+05	5.60E+06	5.12E+03	5.60E+06
Yb-177	9.95E+03	2.69E+05	9.88E+04	2.67E+06	3.07E+04	8.28E+05	3.64E+05	9.83E+06	1.00E+06	2.70E+07	2.47E+04	2.70E+07
Yb-178	7.87E+03	2.13E+05	7.81E+04	2.11E+06	2.42E+04	6.55E+05	2.88E+05	7.78E+06	7.91E+05	2.14E+07	1.95E+04	2.14E+07
Lu-165	4.36E+04	1.18E+06	4.33E+05	1.17E+07	1.34E+05	3.63E+06	1.59E+06	4.31E+07	4.39E+06	1.19E+08	1.08E+05	1.19E+08
Lu-167	2.03E+04	5.47E+05	2.01E+05	5.43E+06	6.24E+04	1.69E+06	7.40E+05	2.00E+07	2.04E+06	5.50E+07	5.03E+04	5.50E+07
Lu-169	1.84E+03	4.97E+04	1.82E+04	4.93E+05	5.66E+03	1.53E+05	6.71E+04	1.81E+06	1.85E+05	4.99E+06	4.56E+03	4.99E+06
Lu-170	1.02E+03	2.76E+04	1.01E+04	2.73E+05	3.14E+03	8.49E+04	3.73E+04	1.01E+06	1.02E+05	2.77E+06	2.53E+03	2.77E+06
Lu-171	1.37E+03	3.71E+04	1.36E+04	3.69E+05	4.23E+03	1.14E+05	5.02E+04	1.36E+06	1.38E+05	3.73E+06	3.41E+03	3.73E+06
Lu-172	7.36E+02	1.99E+04	7.31E+03	1.97E+05	2.27E+03	6.13E+04	2.69E+04	7.27E+05	7.40E+04	2.00E+06	1.83E+03	2.00E+06
Lu-173	2.55E+03	6.90E+04	2.54E+04	6.85E+05	7.87E+03	2.13E+05	9.33E+04	2.52E+06	2.57E+05	6.94E+06	6.34E+03	6.94E+06
Lu-174	3.25E+03	8.78E+04	3.22E+04	8.71E+05	1.00E+04	2.70E+05	1.19E+05	3.21E+06	3.26E+05	8.82E+06	8.06E+03	8.82E+06
Lu-174m	1.67E+03	4.50E+04	1.65E+04	4.47E+05	5.13E+03	1.39E+05	6.08E+04	1.64E+06	1.67E+05	4.52E+06	4.13E+03	4.52E+06
Lu-176	5.14E+02	1.39E+04	5.10E+03	1.38E+05	1.58E+03	4.28E+04	1.88E+04	5.08E+05	5.17E+04	1.40E+06	1.28E+03	1.40E+06
Lu-176m	5.48E+03	1.48E+05	5.44E+04	1.47E+06	1.69E+04	4.56E+05	2.00E+05	5.41E+06	5.51E+05	1.49E+07	1.36E+04	1.49E+07
Lu-177	1.70E+03	4.59E+04	1.69E+04	4.56E+05	5.23E+03	1.41E+05	6.21E+04	1.68E+06	1.71E+05	4.62E+06	4.22E+03	4.62E+06
Lu-177m	5.48E+02	1.48E+04	5.44E+03	1.47E+05	1.69E+03	4.56E+04	2.00E+04	5.41E+05	5.51E+04	1.49E+06	1.36E+03	1.49E+06
Lu-178	1.99E+04	5.38E+05	1.98E+05	5.34E+06	6.13E+04	1.66E+06	7.27E+05	1.97E+07	2.00E+06	5.41E+07	4.94E+04	5.41E+07
Lu-178m	2.83E+04	7.66E+05	2.81E+05	7.60E+06	8.73E+04	2.36E+06	1.04E+06	2.80E+07	2.85E+06	7.70E+07	7.03E+04	7.70E+07
Lu-179	4.19E+03	1.13E+05	4.16E+04	1.12E+06	1.29E+04	3.49E+05	1.53E+05	4.14E+06	4.21E+05	1.14E+07	1.04E+04	1.14E+07

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
Hf-170	2.35E+03	6.34E+04	2.33E+04	6.30E+05	7.23E+03	1.95E+05	8.58E+04	2.32E+06	2.36E+05	6.37E+06	5.82E+03	6.37E+06
Hf-172	8.52E+02	2.30E+04	8.46E+03	2.29E+05	2.62E+03	7.09E+04	3.11E+04	8.41E+05	8.56E+04	2.31E+06	2.11E+03	2.31E+06
Hf-173	4.29E+03	1.16E+05	4.26E+04	1.15E+06	1.32E+04	3.57E+05	1.57E+05	4.24E+06	4.31E+05	1.16E+07	1.06E+04	1.16E+07
Hf-174	3.95E+00	1.07E+02	3.92E+01	1.06E+03	1.22E+01	3.29E+02	1.44E+02	3.90E+03	3.97E+02	1.07E+04	9.80E+00	1.07E+04
Hf-175	2.36E+03	6.37E+04	2.34E+04	6.32E+05	7.26E+03	1.96E+05	8.61E+04	2.33E+06	2.37E+05	6.40E+06	5.85E+03	6.40E+06
Hf-177m	1.15E+04	3.11E+05	1.14E+05	3.09E+06	3.55E+04	9.59E+05	4.21E+05	1.14E+07	1.16E+06	3.13E+07	2.86E+04	3.13E+07
Hf-178m	2.50E+02	6.76E+03	2.48E+03	6.71E+04	7.71E+02	2.08E+04	9.15E+03	2.47E+05	2.52E+04	6.80E+05	6.21E+02	6.80E+05
Hf-179m	7.40E+02	2.00E+04	7.35E+03	1.99E+05	2.28E+03	6.16E+04	2.71E+04	7.31E+05	7.44E+04	2.01E+06	1.84E+03	2.01E+06
Hf-180m	5.63E+03	1.52E+05	5.59E+04	1.51E+06	1.73E+04	4.69E+05	2.06E+05	5.56E+06	5.66E+05	1.53E+07	1.40E+04	1.53E+07
Hf-181	8.29E+02	2.24E+04	8.23E+03	2.22E+05	2.55E+03	6.90E+04	3.03E+04	8.19E+05	8.33E+04	2.25E+06	2.06E+03	2.25E+06
Hf-182	3.63E+02	9.80E+03	3.60E+03	9.73E+04	1.12E+03	3.02E+04	1.33E+04	3.58E+05	3.64E+04	9.85E+05	9.00E+02	9.85E+05
Hf-182m	2.09E+04	5.66E+05	2.08E+05	5.62E+06	6.45E+04	1.74E+06	7.65E+05	2.07E+07	2.10E+06	5.69E+07	5.20E+04	5.69E+07
Hf-183	1.26E+04	3.41E+05	1.25E+05	3.38E+06	3.88E+04	1.05E+06	4.61E+05	1.24E+07	1.27E+06	3.42E+07	3.13E+04	3.42E+07
Hf-184	1.76E+03	4.76E+04	1.75E+04	4.73E+05	5.43E+03	1.47E+05	6.44E+04	1.74E+06	1.77E+05	4.79E+06	4.37E+03	4.79E+06
Ta-172	1.65E+04	4.45E+05	1.64E+05	4.42E+06	5.07E+04	1.37E+06	6.02E+05	1.63E+07	1.66E+06	4.47E+07	4.09E+04	4.47E+07
Ta-173	8.64E+03	2.33E+05	8.57E+04	2.32E+06	2.66E+04	7.19E+05	3.16E+05	8.53E+06	8.68E+05	2.35E+07	2.14E+04	2.35E+07
Ta-174	1.31E+04	3.53E+05	1.30E+05	3.51E+06	4.03E+04	1.09E+06	4.78E+05	1.29E+07	1.31E+06	3.55E+07	3.25E+04	3.55E+07
Ta-175	4.09E+03	1.11E+05	4.06E+04	1.10E+06	1.26E+04	3.41E+05	1.50E+05	4.04E+06	4.11E+05	1.11E+07	1.02E+04	1.11E+07
Ta-176	3.11E+03	8.40E+04	3.09E+04	8.34E+05	9.58E+03	2.59E+05	1.14E+05	3.07E+06	3.13E+05	8.45E+06	7.72E+03	8.45E+06
Ta-177	8.52E+03	2.30E+05	8.46E+04	2.29E+06	2.62E+04	7.09E+05	3.11E+05	8.41E+06	8.56E+05	2.31E+07	2.11E+04	2.31E+07
Ta-178m	1.12E+04	3.03E+05	1.11E+05	3.01E+06	3.45E+04	9.33E+05	4.10E+05	1.11E+07	1.13E+06	3.04E+07	2.78E+04	3.04E+07
Ta-179	1.56E+04	4.22E+05	1.55E+05	4.19E+06	4.81E+04	1.30E+06	5.70E+05	1.54E+07	1.57E+06	4.24E+07	3.87E+04	4.24E+07
Ta-180	1.65E+04	4.45E+05	1.63E+05	4.41E+06	5.07E+04	1.37E+06	6.01E+05	1.63E+07	1.65E+06	4.47E+07	4.08E+04	4.47E+07

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
Ta-182	6.25E+02	1.69E+04	6.20E+03	1.68E+05	1.93E+03	5.20E+04	2.28E+04	6.17E+05	6.28E+04	1.70E+06	1.55E+03	1.70E+06
Ta-182m	7.63E+04	2.06E+06	7.57E+05	2.05E+07	2.35E+05	6.35E+06	2.79E+06	7.54E+07	7.67E+06	2.07E+08	1.89E+05	2.07E+08
Ta-183	6.76E+02	1.83E+04	6.71E+03	1.81E+05	2.08E+03	5.63E+04	2.47E+04	6.68E+05	6.79E+04	1.84E+06	1.68E+03	1.84E+06
Ta-184	1.39E+03	3.76E+04	1.38E+04	3.73E+05	4.28E+03	1.16E+05	5.08E+04	1.37E+06	1.40E+05	3.77E+06	3.45E+03	3.77E+06
Ta-185	1.34E+04	3.61E+05	1.33E+05	3.59E+06	4.12E+04	1.11E+06	4.89E+05	1.32E+07	1.34E+06	3.63E+07	3.32E+04	3.63E+07
Ta-186	2.67E+04	7.21E+05	2.65E+05	7.16E+06	8.22E+04	2.22E+06	9.75E+05	2.64E+07	2.68E+06	7.25E+07	6.62E+04	7.25E+07
W-177	1.73E+04	4.68E+05	1.72E+05	4.64E+06	5.33E+04	1.44E+06	6.32E+05	1.71E+07	1.74E+06	4.70E+07	4.29E+04	4.70E+07
W-178	3.79E+03	1.02E+05	3.76E+04	1.02E+06	1.17E+04	3.16E+05	1.39E+05	3.75E+06	3.81E+05	1.03E+07	9.41E+03	1.03E+07
W-179	2.64E+05	7.12E+06	2.62E+06	7.07E+07	8.12E+05	2.19E+07	9.63E+06	2.60E+08	2.65E+07	7.16E+08	6.54E+05	7.16E+08
W-181	1.10E+04	2.97E+05	1.09E+05	2.95E+06	3.39E+04	9.16E+05	4.02E+05	1.09E+07	1.11E+06	2.99E+07	2.73E+04	2.99E+07
W-185	2.05E+03	5.55E+04	2.04E+04	5.51E+05	6.32E+03	1.71E+05	7.50E+04	2.03E+06	2.06E+05	5.57E+06	5.09E+03	5.57E+06
W-187	1.56E+03	4.21E+04	1.55E+04	4.18E+05	4.80E+03	1.30E+05	5.70E+04	1.54E+06	1.57E+05	4.23E+06	3.87E+03	4.23E+06
W-188	4.36E+02	1.18E+04	4.33E+03	1.17E+05	1.34E+03	3.63E+04	1.59E+04	4.31E+05	4.39E+04	1.19E+06	1.08E+03	1.19E+06
W-190	1.12E+04	3.03E+05	1.11E+05	3.01E+06	3.45E+04	9.33E+05	4.10E+05	1.11E+07	1.13E+06	3.04E+07	2.78E+04	3.04E+07
Re-178	3.38E+04	9.13E+05	3.35E+05	9.07E+06	1.04E+05	2.81E+06	1.24E+06	3.34E+07	3.40E+06	9.18E+07	8.39E+04	9.18E+07
Re-179	7.40E+04	2.00E+06	7.35E+05	1.99E+07	2.28E+05	6.16E+06	2.71E+06	7.31E+07	7.44E+06	2.01E+08	1.84E+05	2.01E+08
Re-181	2.19E+03	5.92E+04	2.17E+04	5.87E+05	6.75E+03	1.82E+05	8.00E+04	2.16E+06	2.20E+05	5.95E+06	5.43E+03	5.95E+06
Re-182	6.65E+02	1.80E+04	6.60E+03	1.78E+05	2.05E+03	5.54E+04	2.43E+04	6.57E+05	6.68E+04	1.81E+06	1.65E+03	1.81E+06
Re-182m	3.31E+03	8.94E+04	3.28E+04	8.87E+05	1.02E+04	2.75E+05	1.21E+05	3.27E+06	3.32E+05	8.99E+06	8.21E+03	8.99E+06
Re-183	9.49E+02	2.57E+04	9.42E+03	2.55E+05	2.92E+03	7.90E+04	3.47E+04	9.38E+05	9.54E+04	2.58E+06	2.36E+03	2.58E+06
Re-184	9.64E+02	2.61E+04	9.57E+03	2.59E+05	2.97E+03	8.03E+04	3.52E+04	9.52E+05	9.69E+04	2.62E+06	2.39E+03	2.62E+06
Re-184m	6.28E+02	1.70E+04	6.24E+03	1.69E+05	1.94E+03	5.23E+04	2.30E+04	6.20E+05	6.31E+04	1.71E+06	1.56E+03	1.71E+06
Re-186	6.25E+02	1.69E+04	6.20E+03	1.68E+05	1.93E+03	5.20E+04	2.28E+04	6.17E+05	6.28E+04	1.70E+06	1.55E+03	1.70E+06

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
Re-186m	4.09E+02	1.11E+04	4.06E+03	1.10E+05	1.26E+03	3.41E+04	1.50E+04	4.04E+05	4.11E+04	1.11E+06	1.02E+03	1.11E+06
Re-187	1.89E+05	5.10E+06	1.87E+06	5.06E+07	5.81E+05	1.57E+07	6.90E+06	1.86E+08	1.90E+07	5.13E+08	4.68E+05	5.13E+08
Re-188	6.48E+02	1.75E+04	6.43E+03	1.74E+05	2.00E+03	5.39E+04	2.37E+04	6.40E+05	6.51E+04	1.76E+06	1.61E+03	1.76E+06
Re-188m	2.99E+04	8.08E+05	2.97E+05	8.02E+06	9.21E+04	2.49E+06	1.09E+06	2.95E+07	3.00E+06	8.12E+07	7.42E+04	8.12E+07
Re-189	1.20E+03	3.23E+04	1.19E+04	3.21E+05	3.68E+03	9.96E+04	4.37E+04	1.18E+06	1.20E+05	3.25E+06	2.97E+03	3.25E+06
Re-190m	2.47E+03	6.67E+04	2.45E+04	6.62E+05	7.60E+03	2.05E+05	9.02E+04	2.44E+06	2.48E+05	6.70E+06	6.12E+03	6.70E+06
Os-180	5.20E+04	1.41E+06	5.17E+05	1.40E+07	1.60E+05	4.33E+06	1.90E+06	5.14E+07	5.23E+06	1.41E+08	1.29E+05	1.41E+08
Os-181	1.05E+04	2.85E+05	1.05E+05	2.83E+06	3.25E+04	8.78E+05	3.85E+05	1.04E+07	1.06E+06	2.86E+07	2.62E+04	2.86E+07
Os-182	1.66E+03	4.48E+04	1.65E+04	4.45E+05	5.11E+03	1.38E+05	6.06E+04	1.64E+06	1.67E+05	4.50E+06	4.12E+03	4.50E+06
Os-183	4.22E+03	1.14E+05	4.18E+04	1.13E+06	1.30E+04	3.51E+05	1.54E+05	4.16E+06	4.24E+05	1.15E+07	1.05E+04	1.15E+07
Os-183m	4.71E+03	1.27E+05	4.68E+04	1.26E+06	1.45E+04	3.92E+05	1.72E+05	4.65E+06	4.73E+05	1.28E+07	1.17E+04	1.28E+07
Os-185	1.96E+03	5.29E+04	1.94E+04	5.25E+05	6.03E+03	1.63E+05	7.16E+04	1.93E+06	1.97E+05	5.32E+06	4.86E+03	5.32E+06
Os-186	2.90E+01	7.84E+02	2.88E+02	7.78E+03	8.93E+01	2.41E+03	1.06E+03	2.86E+04	2.91E+03	7.88E+04	7.19E+01	7.88E+04
Os-189m	5.27E+04	1.42E+06	5.23E+05	1.41E+07	1.62E+05	4.39E+06	1.93E+06	5.21E+07	5.30E+06	1.43E+08	1.31E+05	1.43E+08
Os-191	1.57E+03	4.23E+04	1.55E+04	4.20E+05	4.83E+03	1.30E+05	5.72E+04	1.55E+06	1.57E+05	4.25E+06	3.89E+03	4.25E+06
Os-191m	9.15E+03	2.47E+05	9.08E+04	2.45E+06	2.82E+04	7.61E+05	3.34E+05	9.03E+06	9.19E+05	2.48E+07	2.27E+04	2.48E+07
Os-193	1.09E+03	2.95E+04	1.08E+04	2.93E+05	3.36E+03	9.08E+04	3.99E+04	1.08E+06	1.10E+05	2.96E+06	2.71E+03	2.96E+06
Os-194	3.66E+02	9.89E+03	3.63E+03	9.81E+04	1.13E+03	3.05E+04	1.34E+04	3.61E+05	3.68E+04	9.94E+05	9.08E+02	9.94E+05
Os-196	8.40E+03	2.27E+05	8.34E+04	2.25E+06	2.59E+04	7.00E+05	3.07E+05	8.30E+06	8.45E+05	2.28E+07	2.09E+04	2.28E+07
Ir-182	1.79E+04	4.84E+05	1.78E+05	4.80E+06	5.51E+04	1.49E+06	6.54E+05	1.77E+07	1.80E+06	4.86E+07	4.44E+04	4.86E+07
Ir-183	1.83E+04	4.94E+05	1.81E+05	4.90E+06	5.63E+04	1.52E+06	6.67E+05	1.80E+07	1.84E+06	4.96E+07	4.53E+04	4.96E+07
Ir-184	5.10E+03	1.38E+05	5.06E+04	1.37E+06	1.57E+04	4.24E+05	1.86E+05	5.03E+06	5.12E+05	1.38E+07	1.26E+04	1.38E+07
Ir-185	2.91E+03	7.85E+04	2.88E+04	7.80E+05	8.95E+03	2.42E+05	1.06E+05	2.87E+06	2.92E+05	7.89E+06	7.21E+03	7.89E+06

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
Ir-186	1.71E+03	4.62E+04	1.70E+04	4.59E+05	5.27E+03	1.42E+05	6.25E+04	1.69E+06	1.72E+05	4.65E+06	4.25E+03	4.65E+06
Ir-186m	1.33E+04	3.58E+05	1.32E+05	3.56E+06	4.08E+04	1.10E+06	4.85E+05	1.31E+07	1.33E+06	3.60E+07	3.29E+04	3.60E+07
Ir-187	8.18E+03	2.21E+05	8.12E+04	2.20E+06	2.52E+04	6.81E+05	2.99E+05	8.08E+06	8.22E+05	2.22E+07	2.03E+04	2.22E+07
Ir-188	1.29E+03	3.49E+04	1.28E+04	3.47E+05	3.98E+03	1.08E+05	4.73E+04	1.28E+06	1.30E+05	3.51E+06	3.21E+03	3.51E+06
Ir-189	3.80E+03	1.03E+05	3.78E+04	1.02E+06	1.17E+04	3.17E+05	1.39E+05	3.76E+06	3.82E+05	1.03E+07	9.44E+03	1.03E+07
Ir-190	9.15E+02	2.47E+04	9.08E+03	2.45E+05	2.82E+03	7.61E+04	3.34E+04	9.03E+05	9.19E+04	2.48E+06	2.27E+03	2.48E+06
Ir-190m	1.35E+05	3.66E+06	1.34E+06	3.63E+07	4.17E+05	1.13E+07	4.95E+06	1.34E+08	1.36E+07	3.68E+08	3.36E+05	3.68E+08
Ir-190n	8.24E+03	2.23E+05	8.18E+04	2.21E+06	2.54E+04	6.86E+05	3.01E+05	8.14E+06	8.28E+05	2.24E+07	2.04E+04	2.24E+07
Ir-192	6.83E+02	1.85E+04	6.78E+03	1.83E+05	2.11E+03	5.69E+04	2.50E+04	6.75E+05	6.87E+04	1.86E+06	1.70E+03	1.86E+06
Ir-192n	1.00E+03	2.71E+04	9.96E+03	2.69E+05	3.09E+03	8.35E+04	3.67E+04	9.91E+05	1.01E+05	2.72E+06	2.49E+03	2.72E+06
Ir-193m	3.11E+03	8.40E+04	3.09E+04	8.34E+05	9.58E+03	2.59E+05	1.14E+05	3.07E+06	3.13E+05	8.45E+06	7.72E+03	8.45E+06
Ir-194	6.76E+02	1.83E+04	6.71E+03	1.81E+05	2.08E+03	5.63E+04	2.47E+04	6.68E+05	6.79E+04	1.84E+06	1.68E+03	1.84E+06
Ir-194m	4.73E+02	1.28E+04	4.69E+03	1.27E+05	1.46E+03	3.94E+04	1.73E+04	4.67E+05	4.75E+04	1.28E+06	1.17E+03	1.28E+06
Ir-195	9.01E+03	2.44E+05	8.95E+04	2.42E+06	2.78E+04	7.50E+05	3.29E+05	8.90E+06	9.06E+05	2.45E+07	2.24E+04	2.45E+07
Ir-195m	6.80E+03	1.84E+05	6.75E+04	1.82E+06	2.09E+04	5.66E+05	2.48E+05	6.71E+06	6.83E+05	1.85E+07	1.69E+04	1.85E+07
Ir-196m	8.70E+03	2.35E+05	8.63E+04	2.33E+06	2.68E+04	7.24E+05	3.18E+05	8.59E+06	8.74E+05	2.36E+07	2.16E+04	2.36E+07
Pt-184	3.20E+04	8.64E+05	3.17E+05	8.58E+06	9.85E+04	2.66E+06	1.17E+06	3.16E+07	3.21E+06	8.68E+07	7.93E+04	8.68E+07
Pt-186	8.88E+03	2.40E+05	8.82E+04	2.38E+06	2.74E+04	7.40E+05	3.25E+05	8.78E+06	8.93E+05	2.41E+07	2.20E+04	2.41E+07
Pt-187	1.11E+04	3.00E+05	1.10E+05	2.98E+06	3.42E+04	9.25E+05	4.06E+05	1.10E+07	1.12E+06	3.02E+07	2.76E+04	3.02E+07
Pt-188	1.13E+03	3.06E+04	1.12E+04	3.03E+05	3.48E+03	9.41E+04	4.13E+04	1.12E+06	1.14E+05	3.07E+06	2.81E+03	3.07E+06
Pt-189	4.80E+03	1.30E+05	4.77E+04	1.29E+06	1.48E+04	4.00E+05	1.76E+05	4.74E+06	4.83E+05	1.30E+07	1.19E+04	1.30E+07
Pt-190	1.33E+02	3.58E+03	1.32E+03	3.56E+04	4.08E+02	1.10E+04	4.85E+03	1.31E+05	1.33E+04	3.60E+05	3.29E+02	3.60E+05
Pt-191	2.55E+03	6.89E+04	2.53E+04	6.84E+05	7.85E+03	2.12E+05	9.31E+04	2.52E+06	2.56E+05	6.92E+06	6.32E+03	6.92E+06

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
Pt-193	2.52E+04	6.82E+05	2.50E+05	6.77E+06	7.77E+04	2.10E+06	9.22E+05	2.49E+07	2.54E+06	6.85E+07	6.26E+04	6.85E+07
Pt-193m	1.97E+03	5.34E+04	1.96E+04	5.30E+05	6.08E+03	1.64E+05	7.22E+04	1.95E+06	1.98E+05	5.36E+06	4.90E+03	5.36E+06
Pt-195m	1.41E+03	3.81E+04	1.40E+04	3.78E+05	4.34E+03	1.17E+05	5.15E+04	1.39E+06	1.42E+05	3.83E+06	3.50E+03	3.83E+06
Pt-197	2.09E+03	5.65E+04	2.07E+04	5.61E+05	6.44E+03	1.74E+05	7.64E+04	2.06E+06	2.10E+05	5.68E+06	5.19E+03	5.68E+06
Pt-197m	1.07E+04	2.90E+05	1.06E+05	2.88E+06	3.30E+04	8.93E+05	3.92E+05	1.06E+07	1.08E+06	2.91E+07	2.66E+04	2.91E+07
Pt-199	2.32E+04	6.28E+05	2.31E+05	6.24E+06	7.16E+04	1.94E+06	8.50E+05	2.30E+07	2.34E+06	6.31E+07	5.77E+04	6.31E+07
Pt-200	7.73E+02	2.09E+04	7.67E+03	2.07E+05	2.38E+03	6.43E+04	2.82E+04	7.63E+05	7.76E+04	2.10E+06	1.92E+03	2.10E+06
Pt-202	2.05E+02	5.54E+03	2.03E+03	5.50E+04	6.31E+02	1.71E+04	7.49E+03	2.02E+05	2.06E+04	5.57E+05	5.08E+02	5.57E+05
Au-186	2.10E+04	5.69E+05	2.09E+05	5.65E+06	6.48E+04	1.75E+06	7.69E+05	2.08E+07	2.12E+06	5.72E+07	5.22E+04	5.72E+07
Au-190	2.30E+04	6.21E+05	2.28E+05	6.17E+06	7.08E+04	1.91E+06	8.40E+05	2.27E+07	2.31E+06	6.24E+07	5.71E+04	6.24E+07
Au-191	1.31E+04	3.55E+05	1.30E+05	3.52E+06	4.05E+04	1.09E+06	4.80E+05	1.30E+07	1.32E+06	3.57E+07	3.26E+04	3.57E+07
Au-192	5.68E+03	1.53E+05	5.64E+04	1.52E+06	1.75E+04	4.73E+05	2.08E+05	5.61E+06	5.71E+05	1.54E+07	1.41E+04	1.54E+07
Au-193	7.27E+03	1.97E+05	7.22E+04	1.95E+06	2.24E+04	6.06E+05	2.66E+05	7.18E+06	7.31E+05	1.98E+07	1.80E+04	1.98E+07
Au-194	2.41E+03	6.51E+04	2.39E+04	6.47E+05	7.43E+03	2.01E+05	8.81E+04	2.38E+06	2.42E+05	6.55E+06	5.98E+03	6.55E+06
Au-195	3.50E+03	9.47E+04	3.48E+04	9.40E+05	1.08E+04	2.92E+05	1.28E+05	3.46E+06	3.52E+05	9.52E+06	8.69E+03	9.52E+06
Au-196	2.74E+03	7.40E+04	2.72E+04	7.35E+05	8.44E+03	2.28E+05	1.00E+05	2.71E+06	2.75E+05	7.44E+06	6.80E+03	7.44E+06
Au-196m	2.36E+03	6.37E+04	2.34E+04	6.32E+05	7.26E+03	1.96E+05	8.61E+04	2.33E+06	2.37E+05	6.40E+06	5.85E+03	6.40E+06
Au-198	8.95E+02	2.42E+04	8.88E+03	2.40E+05	2.76E+03	7.45E+04	3.27E+04	8.84E+05	8.99E+04	2.43E+06	2.22E+03	2.43E+06
Au-198m	7.73E+02	2.09E+04	7.67E+03	2.07E+05	2.38E+03	6.43E+04	2.82E+04	7.63E+05	7.76E+04	2.10E+06	1.92E+03	2.10E+06
Au-199	2.05E+03	5.53E+04	2.03E+04	5.49E+05	6.30E+03	1.70E+05	7.48E+04	2.02E+06	2.06E+05	5.56E+06	5.08E+03	5.56E+06
Au-200	1.37E+04	3.70E+05	1.36E+05	3.67E+06	4.22E+04	1.14E+06	5.01E+05	1.35E+07	1.38E+06	3.72E+07	3.40E+04	3.72E+07
Au-200m	9.42E+02	2.55E+04	9.35E+03	2.53E+05	2.90E+03	7.84E+04	3.44E+04	9.31E+05	9.47E+04	2.56E+06	2.34E+03	2.56E+06
Au-201	3.80E+04	1.03E+06	3.78E+05	1.02E+07	1.17E+05	3.17E+06	1.39E+06	3.76E+07	3.82E+06	1.03E+08	9.44E+04	1.03E+08

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
Hg-190	4.47E+04	1.21E+06	4.44E+05	1.20E+07	1.38E+05	3.72E+06	1.64E+06	4.42E+07	4.50E+06	1.22E+08	1.11E+05	1.22E+08
Hg-191m	1.81E+04	4.89E+05	1.79E+05	4.85E+06	5.57E+04	1.51E+06	6.61E+05	1.79E+07	1.82E+06	4.91E+07	4.49E+04	4.91E+07
Hg-192	4.27E+03	1.16E+05	4.24E+04	1.15E+06	1.32E+04	3.56E+05	1.56E+05	4.22E+06	4.30E+05	1.16E+07	1.06E+04	1.16E+07
Hg-193	8.95E+03	2.42E+05	8.88E+04	2.40E+06	2.76E+04	7.45E+05	3.27E+05	8.84E+06	8.99E+05	2.43E+07	2.22E+04	2.43E+07
Hg-193m	2.21E+03	5.98E+04	2.20E+04	5.94E+05	6.82E+03	1.84E+05	8.09E+04	2.19E+06	2.22E+05	6.01E+06	5.49E+03	6.01E+06
Hg-194	7.97E+02	2.15E+04	7.91E+03	2.14E+05	2.46E+03	6.64E+04	2.91E+04	7.88E+05	8.01E+04	2.17E+06	1.98E+03	2.17E+06
Hg-195	9.08E+03	2.45E+05	9.01E+04	2.44E+06	2.80E+04	7.56E+05	3.32E+05	8.97E+06	9.12E+05	2.47E+07	2.25E+04	2.47E+07
Hg-195m	1.67E+03	4.50E+04	1.65E+04	4.47E+05	5.13E+03	1.39E+05	6.08E+04	1.64E+06	1.67E+05	4.52E+06	4.13E+03	4.52E+06
Hg-197	3.67E+03	9.92E+04	3.64E+04	9.84E+05	1.13E+04	3.05E+05	1.34E+05	3.62E+06	3.69E+05	9.97E+06	9.10E+03	9.97E+06
Hg-197m	1.89E+03	5.11E+04	1.88E+04	5.07E+05	5.82E+03	1.57E+05	6.91E+04	1.87E+06	1.90E+05	5.13E+06	4.69E+03	5.13E+06
Hg-199m	3.03E+04	8.18E+05	3.00E+05	8.12E+06	9.32E+04	2.52E+06	1.11E+06	2.99E+07	3.04E+06	8.22E+07	7.51E+04	8.22E+07
Hg-203	1.72E+03	4.65E+04	1.71E+04	4.62E+05	5.30E+03	1.43E+05	6.29E+04	1.70E+06	1.73E+05	4.67E+06	4.27E+03	4.67E+06
Tl-194	2.06E+04	5.56E+05	2.04E+05	5.52E+06	6.33E+04	1.71E+06	7.51E+05	2.03E+07	2.07E+06	5.58E+07	5.10E+04	5.58E+07
Tl-194m	2.51E+04	6.79E+05	2.49E+05	6.74E+06	7.74E+04	2.09E+06	9.18E+05	2.48E+07	2.53E+06	6.83E+07	6.24E+04	6.83E+07
Tl-195	4.01E+04	1.08E+06	3.98E+05	1.08E+07	1.24E+05	3.34E+06	1.47E+06	3.96E+07	4.03E+06	1.09E+08	9.96E+04	1.09E+08
Tl-196	1.94E+04	5.24E+05	1.92E+05	5.20E+06	5.97E+04	1.61E+06	7.08E+05	1.91E+07	1.95E+06	5.26E+07	4.81E+04	5.26E+07
Tl-197	4.20E+04	1.14E+06	4.17E+05	1.13E+07	1.29E+05	3.50E+06	1.54E+06	4.15E+07	4.22E+06	1.14E+08	1.04E+05	1.14E+08
Tl-198	1.38E+04	3.72E+05	1.37E+05	3.70E+06	4.24E+04	1.15E+06	5.03E+05	1.36E+07	1.38E+06	3.74E+07	3.42E+04	3.74E+07
Tl-198m	1.78E+04	4.80E+05	1.76E+05	4.77E+06	5.47E+04	1.48E+06	6.49E+05	1.76E+07	1.79E+06	4.83E+07	4.41E+04	4.83E+07
Tl-199	3.57E+04	9.66E+05	3.55E+05	9.59E+06	1.10E+05	2.98E+06	1.31E+06	3.53E+07	3.59E+06	9.71E+07	8.87E+04	9.71E+07
Tl-200	5.04E+03	1.36E+05	5.00E+04	1.35E+06	1.55E+04	4.19E+05	1.84E+05	4.97E+06	5.06E+05	1.37E+07	1.25E+04	1.37E+07
Tl-201	9.79E+03	2.65E+05	9.72E+04	2.63E+06	3.02E+04	8.15E+05	3.58E+05	9.67E+06	9.84E+05	2.66E+07	2.43E+04	2.66E+07
Tl-202	2.22E+03	6.00E+04	2.20E+04	5.96E+05	6.84E+03	1.85E+05	8.12E+04	2.19E+06	2.23E+05	6.03E+06	5.51E+03	6.03E+06

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
Tl-204	7.73E+02	2.09E+04	7.67E+03	2.07E+05	2.38E+03	6.43E+04	2.82E+04	7.63E+05	7.76E+04	2.10E+06	1.92E+03	2.10E+06
Pb-194	4.68E+04	1.26E+06	4.64E+05	1.25E+07	1.44E+05	3.89E+06	1.71E+06	4.62E+07	4.70E+06	1.27E+08	1.16E+05	1.27E+08
Pb-195m	3.89E+04	1.05E+06	3.86E+05	1.04E+07	1.20E+05	3.24E+06	1.42E+06	3.84E+07	3.91E+06	1.06E+08	9.65E+04	1.06E+08
Pb-196	3.61E+04	9.74E+05	3.58E+05	9.67E+06	1.11E+05	3.00E+06	1.32E+06	3.56E+07	3.62E+06	9.79E+07	8.95E+04	9.79E+07
Pb-197m	2.17E+04	5.87E+05	2.15E+05	5.82E+06	6.69E+04	1.81E+06	7.93E+05	2.14E+07	2.18E+06	5.90E+07	5.39E+04	5.90E+07
Pb-198	1.28E+04	3.46E+05	1.27E+05	3.44E+06	3.95E+04	1.07E+06	4.68E+05	1.27E+07	1.29E+06	3.48E+07	3.18E+04	3.48E+07
Pb-199	2.54E+04	6.87E+05	2.52E+05	6.82E+06	7.84E+04	2.12E+06	9.30E+05	2.51E+07	2.56E+06	6.91E+07	6.31E+04	6.91E+07
Pb-200	2.61E+03	7.06E+04	2.59E+04	7.01E+05	8.05E+03	2.18E+05	9.55E+04	2.58E+06	2.63E+05	7.10E+06	6.48E+03	7.10E+06
Pb-201	6.31E+03	1.71E+05	6.27E+04	1.69E+06	1.94E+04	5.26E+05	2.31E+05	6.24E+06	6.35E+05	1.71E+07	1.57E+04	1.71E+07
Pb-202	5.95E+01	1.61E+03	5.91E+02	1.60E+04	1.83E+02	4.95E+03	2.17E+03	5.88E+04	5.98E+03	1.62E+05	1.48E+02	1.62E+05
Pb-202m	6.91E+03	1.87E+05	6.86E+04	1.85E+06	2.13E+04	5.75E+05	2.53E+05	6.83E+06	6.94E+05	1.88E+07	1.71E+04	1.88E+07
Pb-203	4.05E+03	1.09E+05	4.02E+04	1.09E+06	1.25E+04	3.37E+05	1.48E+05	4.00E+06	4.07E+05	1.10E+07	1.01E+04	1.10E+07
Pb-204m	2.07E+04	5.59E+05	2.05E+05	5.55E+06	6.38E+04	1.72E+06	7.56E+05	2.04E+07	2.08E+06	5.62E+07	5.14E+04	5.62E+07
Pb-205	3.53E+03	9.55E+04	3.51E+04	9.48E+05	1.09E+04	2.94E+05	1.29E+05	3.49E+06	3.55E+05	9.60E+06	8.77E+03	9.60E+06
Pb-209	1.67E+04	4.50E+05	1.65E+05	4.47E+06	5.13E+04	1.39E+06	6.08E+05	1.64E+07	1.67E+06	4.52E+07	4.13E+04	4.52E+07
Pb-210	1.22E+00	3.30E+01	1.21E+01	3.27E+02	3.76E+00	1.02E+02	4.46E+01	1.20E+03	1.23E+02	3.31E+03	3.03E+00	3.31E+03
Pb-211	4.75E+03	1.28E+05	4.71E+04	1.27E+06	1.46E+04	3.95E+05	1.73E+05	4.69E+06	4.77E+05	1.29E+07	1.18E+04	1.29E+07
Pb-212	1.21E+02	3.26E+03	1.20E+03	3.24E+04	3.72E+02	1.01E+04	4.41E+03	1.19E+05	1.21E+04	3.28E+05	3.00E+02	3.28E+05
Pb-214	6.25E+03	1.69E+05	6.20E+04	1.68E+06	1.93E+04	5.20E+05	2.28E+05	6.17E+06	6.28E+05	1.70E+07	1.55E+04	1.70E+07
Bi-200	1.74E+04	4.69E+05	1.72E+05	4.66E+06	5.35E+04	1.45E+06	6.35E+05	1.72E+07	1.75E+06	4.72E+07	4.31E+04	4.72E+07
Bi-201	8.35E+03	2.26E+05	8.29E+04	2.24E+06	2.57E+04	6.95E+05	3.05E+05	8.24E+06	8.39E+05	2.27E+07	2.07E+04	2.27E+07
Bi-202	9.87E+03	2.67E+05	9.80E+04	2.65E+06	3.04E+04	8.22E+05	3.61E+05	9.75E+06	9.92E+05	2.68E+07	2.45E+04	2.68E+07
Bi-203	1.99E+03	5.37E+04	1.97E+04	5.33E+05	6.12E+03	1.65E+05	7.26E+04	1.96E+06	2.00E+05	5.40E+06	4.93E+03	5.40E+06

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
Bi-204	1.72E+03	4.66E+04	1.71E+04	4.62E+05	5.31E+03	1.43E+05	6.30E+04	1.70E+06	1.73E+05	4.68E+06	4.27E+03	4.68E+06
Bi-205	1.08E+03	2.92E+04	1.07E+04	2.90E+05	3.33E+03	9.00E+04	3.95E+04	1.07E+06	1.09E+05	2.94E+06	2.68E+03	2.94E+06
Bi-206	5.04E+02	1.36E+04	5.00E+03	1.35E+05	1.55E+03	4.19E+04	1.84E+04	4.97E+05	5.06E+04	1.37E+06	1.25E+03	1.37E+06
Bi-207	7.54E+02	2.04E+04	7.48E+03	2.02E+05	2.32E+03	6.28E+04	2.75E+04	7.45E+05	7.58E+04	2.05E+06	1.87E+03	2.05E+06
Bi-208	8.64E+02	2.33E+04	8.57E+03	2.32E+05	2.66E+03	7.19E+04	3.16E+04	8.53E+05	8.68E+04	2.35E+06	2.14E+03	2.35E+06
Bi-210	6.91E+02	1.87E+04	6.86E+03	1.85E+05	2.13E+03	5.75E+04	2.53E+04	6.83E+05	6.94E+04	1.88E+06	1.71E+03	1.88E+06
Bi-210m	6.19E+01	1.67E+03	6.14E+02	1.66E+04	1.91E+02	5.15E+03	2.26E+03	6.11E+04	6.22E+03	1.68E+05	1.54E+02	1.68E+05
Bi-212	3.53E+03	9.55E+04	3.51E+04	9.48E+05	1.09E+04	2.94E+05	1.29E+05	3.49E+06	3.55E+05	9.60E+06	8.77E+03	9.60E+06
Bi-213	4.64E+03	1.25E+05	4.61E+04	1.25E+06	1.43E+04	3.86E+05	1.70E+05	4.58E+06	4.66E+05	1.26E+07	1.15E+04	1.26E+07
Bi-214	8.35E+03	2.26E+05	8.29E+04	2.24E+06	2.57E+04	6.95E+05	3.05E+05	8.24E+06	8.39E+05	2.27E+07	2.07E+04	2.27E+07
Po-203	1.83E+04	4.95E+05	1.82E+05	4.91E+06	5.64E+04	1.53E+06	6.69E+05	1.81E+07	1.84E+06	4.98E+07	4.55E+04	4.98E+07
Po-204	3.30E+03	8.92E+04	3.27E+04	8.85E+05	1.02E+04	2.75E+05	1.21E+05	3.26E+06	3.32E+05	8.96E+06	8.19E+03	8.96E+06
Po-205	1.76E+04	4.76E+05	1.75E+05	4.73E+06	5.43E+04	1.47E+06	6.44E+05	1.74E+07	1.77E+06	4.79E+07	4.37E+04	4.79E+07
Po-206	1.91E+02	5.17E+03	1.90E+03	5.13E+04	5.89E+02	1.59E+04	6.99E+03	1.89E+05	1.92E+04	5.20E+05	4.75E+02	5.20E+05
Po-207	7.15E+03	1.93E+05	7.10E+04	1.92E+06	2.20E+04	5.95E+05	2.61E+05	7.06E+06	7.18E+05	1.94E+07	1.77E+04	1.94E+07
Po-208	2.81E+00	7.59E+01	2.79E+01	7.53E+02	8.65E+00	2.34E+02	1.03E+02	2.77E+03	2.82E+02	7.63E+03	6.97E+00	7.63E+03
Po-209	2.83E+00	7.64E+01	2.81E+01	7.58E+02	8.71E+00	2.35E+02	1.03E+02	2.79E+03	2.84E+02	7.68E+03	7.01E+00	7.68E+03
Po-210	3.49E+00	9.44E+01	3.47E+01	9.37E+02	1.08E+01	2.91E+02	1.28E+02	3.45E+03	3.51E+02	9.49E+03	8.67E+00	9.49E+03
At-205	1.58E+04	4.28E+05	1.57E+05	4.25E+06	4.88E+04	1.32E+06	5.79E+05	1.56E+07	1.59E+06	4.30E+07	3.93E+04	4.30E+07
At-206	1.43E+04	3.86E+05	1.42E+05	3.84E+06	4.40E+04	1.19E+06	5.22E+05	1.41E+07	1.44E+06	3.88E+07	3.55E+04	3.88E+07
At-207	4.12E+03	1.11E+05	4.09E+04	1.10E+06	1.27E+04	3.43E+05	1.51E+05	4.07E+06	4.14E+05	1.12E+07	1.02E+04	1.12E+07
At-208	1.05E+04	2.85E+05	1.05E+05	2.83E+06	3.25E+04	8.78E+05	3.85E+05	1.04E+07	1.06E+06	2.86E+07	2.62E+04	2.86E+07
At-209	2.47E+03	6.67E+04	2.45E+04	6.62E+05	7.60E+03	2.05E+05	9.02E+04	2.44E+06	2.48E+05	6.70E+06	6.12E+03	6.70E+06

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
At-210	1.06E+03	2.87E+04	1.06E+04	2.85E+05	3.27E+03	8.85E+04	3.89E+04	1.05E+06	1.07E+05	2.89E+06	2.64E+03	2.89E+06
At-211	8.40E+01	2.27E+03	8.34E+02	2.25E+04	2.59E+02	7.00E+03	3.07E+03	8.30E+04	8.45E+03	2.28E+05	2.09E+02	2.28E+05
Fr-212	1.41E+03	3.81E+04	1.40E+04	3.78E+05	4.34E+03	1.17E+05	5.15E+04	1.39E+06	1.42E+05	3.83E+06	3.50E+03	3.83E+06
Fr-222	1.39E+03	3.76E+04	1.38E+04	3.73E+05	4.29E+03	1.16E+05	5.08E+04	1.37E+06	1.40E+05	3.78E+06	3.45E+03	3.78E+06
Fr-223	3.85E+02	1.04E+04	3.82E+03	1.03E+05	1.19E+03	3.21E+04	1.41E+04	3.80E+05	3.87E+04	1.05E+06	9.56E+02	1.05E+06
Ra-223	5.73E+00	1.55E+02	5.69E+01	1.54E+03	1.77E+01	4.77E+02	2.09E+02	5.66E+03	5.76E+02	1.56E+04	1.42E+01	1.56E+04
Ra-224	9.87E+00	2.67E+02	9.80E+01	2.65E+03	3.04E+01	8.22E+02	3.61E+02	9.75E+03	9.92E+02	2.68E+04	2.45E+01	2.68E+04
Ra-225	5.23E+00	1.41E+02	5.19E+01	1.40E+03	1.61E+01	4.35E+02	1.91E+02	5.16E+03	5.25E+02	1.42E+04	1.30E+01	1.42E+04
Ra-226	2.75E+00	7.42E+01	2.73E+01	7.37E+02	8.46E+00	2.29E+02	1.00E+02	2.71E+03	2.76E+02	7.46E+03	6.81E+00	7.46E+03
Ra-227	1.12E+04	3.03E+05	1.11E+05	3.01E+06	3.45E+04	9.33E+05	4.10E+05	1.11E+07	1.13E+06	3.04E+07	2.78E+04	3.04E+07
Ra-228	7.77E-01	2.10E+01	7.72E+00	2.09E+02	2.39E+00	6.47E+01	2.84E+01	7.68E+02	7.81E+01	2.11E+03	1.93E+00	2.11E+03
Ra-230	5.16E+03	1.39E+05	5.12E+04	1.38E+06	1.59E+04	4.30E+05	1.89E+05	5.10E+06	5.19E+05	1.40E+07	1.28E+04	1.40E+07
Ac-224	4.47E+02	1.21E+04	4.44E+03	1.20E+05	1.38E+03	3.72E+04	1.64E+04	4.42E+05	4.50E+04	1.22E+06	1.11E+03	1.22E+06
Ac-225	2.38E+01	6.43E+02	2.36E+02	6.38E+03	7.33E+01	1.98E+03	8.69E+02	2.35E+04	2.39E+03	6.46E+04	5.90E+01	6.46E+04
Ac-226	8.58E+01	2.32E+03	8.51E+02	2.30E+04	2.64E+02	7.14E+03	3.13E+03	8.47E+04	8.62E+03	2.33E+05	2.13E+02	2.33E+05
Ac-227	3.17E+00	8.58E+01	3.15E+01	8.51E+02	9.77E+00	2.64E+02	1.16E+02	3.13E+03	3.19E+02	8.62E+03	7.87E+00	8.62E+03
Ac-228	2.42E+03	6.54E+04	2.40E+04	6.49E+05	7.45E+03	2.01E+05	8.84E+04	2.39E+06	2.43E+05	6.57E+06	6.00E+03	6.57E+06
Th-226	2.61E+03	7.06E+04	2.59E+04	7.01E+05	8.05E+03	2.18E+05	9.55E+04	2.58E+06	2.63E+05	7.10E+06	6.48E+03	7.10E+06
Th-227	8.46E+01	2.29E+03	8.40E+02	2.27E+04	2.61E+02	7.04E+03	3.09E+03	8.36E+04	8.50E+03	2.30E+05	2.10E+02	2.30E+05
Th-228	1.07E+01	2.90E+02	1.06E+02	2.88E+03	3.30E+01	8.93E+02	3.92E+02	1.06E+04	1.08E+03	2.91E+04	2.66E+01	2.91E+04
Th-229	2.04E+00	5.52E+01	2.03E+01	5.48E+02	6.29E+00	1.70E+02	7.46E+01	2.02E+03	2.05E+02	5.55E+03	5.07E+00	5.55E+03
Th-230	4.92E+00	1.33E+02	4.88E+01	1.32E+03	1.51E+01	4.09E+02	1.80E+02	4.86E+03	4.94E+02	1.34E+04	1.22E+01	1.34E+04
Th-231	2.70E+03	7.29E+04	2.68E+04	7.24E+05	8.31E+03	2.25E+05	9.86E+04	2.66E+06	2.71E+05	7.33E+06	6.70E+03	7.33E+06

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
Th-232	4.47E+00	1.21E+02	4.44E+01	1.20E+03	1.38E+01	3.72E+02	1.64E+02	4.42E+03	4.50E+02	1.22E+04	1.11E+01	1.22E+04
Th-233	4.24E+04	1.15E+06	4.21E+05	1.14E+07	1.31E+05	3.53E+06	1.55E+06	4.19E+07	4.27E+06	1.15E+08	1.05E+05	1.15E+08
Th-234	2.66E+02	7.18E+03	2.64E+03	7.13E+04	8.19E+02	2.21E+04	9.71E+03	2.63E+05	2.67E+04	7.22E+05	6.59E+02	7.22E+05
Th-236	1.06E+04	2.87E+05	1.06E+05	2.85E+06	3.27E+04	8.85E+05	3.89E+05	1.05E+07	1.07E+06	2.89E+07	2.64E+04	2.89E+07
Pa-227	2.02E+03	5.45E+04	2.00E+04	5.41E+05	6.21E+03	1.68E+05	7.37E+04	1.99E+06	2.03E+05	5.48E+06	5.00E+03	5.48E+06
Pa-228	1.15E+03	3.11E+04	1.14E+04	3.09E+05	3.55E+03	9.59E+04	4.21E+04	1.14E+06	1.16E+05	3.13E+06	2.86E+03	3.13E+06
Pa-229	1.10E+04	2.97E+05	1.09E+05	2.95E+06	3.39E+04	9.16E+05	4.02E+05	1.09E+07	1.11E+06	2.99E+07	2.73E+04	2.99E+07
Pa-230	1.03E+03	2.78E+04	1.02E+04	2.76E+05	3.17E+03	8.56E+04	3.76E+04	1.02E+06	1.03E+05	2.79E+06	2.55E+03	2.79E+06
Pa-231	2.23E+00	6.01E+01	2.21E+01	5.97E+02	6.85E+00	1.85E+02	8.13E+01	2.20E+03	2.24E+02	6.04E+03	5.52E+00	6.04E+03
Pa-232	1.40E+03	3.79E+04	1.39E+04	3.76E+05	4.32E+03	1.17E+05	5.12E+04	1.39E+06	1.41E+05	3.81E+06	3.48E+03	3.81E+06
Pa-233	9.42E+02	2.55E+04	9.35E+03	2.53E+05	2.90E+03	7.84E+04	3.44E+04	9.31E+05	9.47E+04	2.56E+06	2.34E+03	2.56E+06
Pa-234	2.24E+03	6.05E+04	2.22E+04	6.00E+05	6.89E+03	1.86E+05	8.18E+04	2.21E+06	2.25E+05	6.08E+06	5.55E+03	6.08E+06
Pa-235	3.48E+04	9.42E+05	3.46E+05	9.35E+06	1.07E+05	2.90E+06	1.27E+06	3.44E+07	3.50E+06	9.46E+07	8.65E+04	9.46E+07
U-230	1.73E+01	4.66E+02	1.71E+02	4.63E+03	5.31E+01	1.44E+03	6.30E+02	1.70E+04	1.73E+03	4.69E+04	4.28E+01	4.69E+04
U-231	2.69E+03	7.26E+04	2.67E+04	7.21E+05	8.28E+03	2.24E+05	9.82E+04	2.65E+06	2.70E+05	7.30E+06	6.67E+03	7.30E+06
U-232	3.08E+00	8.32E+01	3.06E+01	8.26E+02	9.48E+00	2.56E+02	1.13E+02	3.04E+03	3.09E+02	8.36E+03	7.64E+00	8.36E+03
U-233	2.07E+01	5.58E+02	2.05E+02	5.54E+03	6.36E+01	1.72E+03	7.55E+02	2.04E+04	2.08E+03	5.61E+04	5.13E+01	5.61E+04
U-234	2.14E+01	5.79E+02	2.12E+02	5.74E+03	6.59E+01	1.78E+03	7.82E+02	2.11E+04	2.15E+03	5.81E+04	5.31E+01	5.81E+04
U-235	2.27E+01	6.12E+02	2.25E+02	6.08E+03	6.98E+01	1.89E+03	8.28E+02	2.24E+04	2.28E+03	6.15E+04	5.62E+01	6.15E+04
U-235m	2.14E+08	5.78E+09	2.12E+09	5.73E+10	6.58E+08	1.78E+10	7.81E+09	2.11E+11	2.15E+10	5.80E+11	5.30E+08	5.80E+11
U-236	2.27E+01	6.15E+02	2.26E+02	6.10E+03	7.00E+01	1.89E+03	8.31E+02	2.25E+04	2.29E+03	6.18E+04	5.64E+01	6.18E+04
U-237	1.17E+03	3.17E+04	1.16E+04	3.15E+05	3.61E+03	9.77E+04	4.29E+04	1.16E+06	1.18E+05	3.19E+06	2.91E+03	3.19E+06
U-238	2.37E+01	6.42E+02	2.36E+02	6.37E+03	7.31E+01	1.98E+03	8.67E+02	2.34E+04	2.39E+03	6.45E+04	5.89E+01	6.45E+04

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
U-239	3.33E+04	9.01E+05	3.31E+05	8.95E+06	1.03E+05	2.78E+06	1.22E+06	3.29E+07	3.35E+06	9.06E+07	8.27E+04	9.06E+07
U-240	8.29E+02	2.24E+04	8.23E+03	2.22E+05	2.55E+03	6.90E+04	3.03E+04	8.19E+05	8.33E+04	2.25E+06	2.06E+03	2.25E+06
U-242	1.76E+04	4.75E+05	1.75E+05	4.72E+06	5.42E+04	1.46E+06	6.43E+05	1.74E+07	1.77E+06	4.78E+07	4.37E+04	4.78E+07
Np-232	1.00E+05	2.71E+06	9.96E+05	2.69E+07	3.09E+05	8.35E+06	3.67E+06	9.91E+07	1.01E+07	2.72E+08	2.49E+05	2.72E+08
Np-233	4.23E+05	1.14E+07	4.20E+06	1.13E+08	1.30E+06	3.52E+07	1.55E+07	4.18E+08	4.25E+07	1.15E+09	1.05E+06	1.15E+09
Np-234	1.51E+03	4.07E+04	1.49E+04	4.04E+05	4.64E+03	1.25E+05	5.50E+04	1.49E+06	1.51E+05	4.09E+06	3.74E+03	4.09E+06
Np-235	1.56E+04	4.22E+05	1.55E+05	4.19E+06	4.81E+04	1.30E+06	5.71E+05	1.54E+07	1.57E+06	4.24E+07	3.88E+04	4.24E+07
Np-236	4.61E+01	1.25E+03	4.57E+02	1.24E+04	1.42E+02	3.84E+03	1.68E+03	4.55E+04	4.63E+03	1.25E+05	1.14E+02	1.25E+05
Np-236m	4.66E+03	1.26E+05	4.62E+04	1.25E+06	1.43E+04	3.88E+05	1.70E+05	4.60E+06	4.68E+05	1.27E+07	1.16E+04	1.27E+07
Np-237	9.95E+00	2.69E+02	9.88E+01	2.67E+03	3.07E+01	8.28E+02	3.64E+02	9.83E+03	1.00E+03	2.70E+04	2.47E+01	2.70E+04
Np-238	1.04E+03	2.80E+04	1.03E+04	2.78E+05	3.19E+03	8.63E+04	3.79E+04	1.02E+06	1.04E+05	2.82E+06	2.57E+03	2.82E+06
Np-239	1.12E+03	3.03E+04	1.11E+04	3.01E+05	3.45E+03	9.33E+04	4.10E+04	1.11E+06	1.13E+05	3.04E+06	2.78E+03	3.04E+06
Np-240	1.30E+04	3.51E+05	1.29E+05	3.48E+06	4.00E+04	1.08E+06	4.74E+05	1.28E+07	1.30E+06	3.52E+07	3.22E+04	3.52E+07
Np-241	5.95E+04	1.61E+06	5.91E+05	1.60E+07	1.83E+05	4.95E+06	2.17E+06	5.88E+07	5.98E+06	1.62E+08	1.48E+05	1.62E+08
Pu-232	6.76E+03	1.83E+05	6.71E+04	1.81E+06	2.08E+04	5.63E+05	2.47E+05	6.68E+06	6.79E+05	1.84E+07	1.68E+04	1.84E+07
Pu-234	5.98E+03	1.62E+05	5.94E+04	1.60E+06	1.84E+04	4.98E+05	2.19E+05	5.91E+06	6.01E+05	1.62E+07	1.48E+04	1.62E+07
Pu-235	4.22E+05	1.14E+07	4.18E+06	1.13E+08	1.30E+06	3.51E+07	1.54E+07	4.16E+08	4.24E+07	1.15E+09	1.05E+06	1.15E+09
Pu-236	1.13E+01	3.06E+02	1.12E+02	3.03E+03	3.48E+01	9.41E+02	4.13E+02	1.12E+04	1.14E+03	3.07E+04	2.81E+01	3.07E+04
Pu-237	8.24E+03	2.23E+05	8.18E+04	2.21E+06	2.54E+04	6.86E+05	3.01E+05	8.14E+06	8.28E+05	2.24E+07	2.04E+04	2.24E+07
Pu-238	4.73E+00	1.28E+02	4.69E+01	1.27E+03	1.46E+01	3.94E+02	1.73E+02	4.67E+03	4.75E+02	1.28E+04	1.17E+01	1.28E+04
Pu-239	4.32E+00	1.17E+02	4.29E+01	1.16E+03	1.33E+01	3.60E+02	1.58E+02	4.27E+03	4.34E+02	1.17E+04	1.07E+01	1.17E+04
Pu-240	4.32E+00	1.17E+02	4.29E+01	1.16E+03	1.33E+01	3.60E+02	1.58E+02	4.27E+03	4.34E+02	1.17E+04	1.07E+01	1.17E+04
Pu-241	2.39E+02	6.45E+03	2.37E+03	6.40E+04	7.35E+02	1.99E+04	8.72E+03	2.36E+05	2.40E+04	6.48E+05	5.92E+02	6.48E+05

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
Pu-242	4.54E+00	1.23E+02	4.51E+01	1.22E+03	1.40E+01	3.78E+02	1.66E+02	4.48E+03	4.56E+02	1.23E+04	1.13E+01	1.23E+04
Pu-243	1.06E+04	2.87E+05	1.06E+05	2.85E+06	3.27E+04	8.85E+05	3.89E+05	1.05E+07	1.07E+06	2.89E+07	2.64E+04	2.89E+07
Pu-244	4.56E+00	1.23E+02	4.52E+01	1.22E+03	1.40E+01	3.79E+02	1.67E+02	4.50E+03	4.58E+02	1.24E+04	1.13E+01	1.24E+04
Pu-245	1.33E+03	3.60E+04	1.32E+04	3.57E+05	4.10E+03	1.11E+05	4.87E+04	1.32E+06	1.34E+05	3.62E+06	3.30E+03	3.62E+06
Pu-246	3.27E+02	8.85E+03	3.25E+03	8.78E+04	1.01E+03	2.73E+04	1.20E+04	3.23E+05	3.29E+04	8.89E+05	8.12E+02	8.89E+05
Am-237	5.23E+04	1.41E+06	5.19E+05	1.40E+07	1.61E+05	4.35E+06	1.91E+06	5.16E+07	5.25E+06	1.42E+08	1.30E+05	1.42E+08
Am-238	3.07E+04	8.30E+05	3.05E+05	8.24E+06	9.46E+04	2.56E+06	1.12E+06	3.03E+07	3.09E+06	8.34E+07	7.62E+04	8.34E+07
Am-239	3.75E+03	1.01E+05	3.72E+04	1.01E+06	1.15E+04	3.12E+05	1.37E+05	3.70E+06	3.77E+05	1.02E+07	9.30E+03	1.02E+07
Am-240	1.63E+03	4.41E+04	1.62E+04	4.37E+05	5.02E+03	1.36E+05	5.96E+04	1.61E+06	1.64E+05	4.43E+06	4.05E+03	4.43E+06
Am-241	5.23E+00	1.41E+02	5.19E+01	1.40E+03	1.61E+01	4.35E+02	1.91E+02	5.16E+03	5.25E+02	1.42E+04	1.30E+01	1.42E+04
Am-242	2.95E+03	7.97E+04	2.93E+04	7.91E+05	9.08E+03	2.45E+05	1.08E+05	2.91E+06	2.96E+05	8.01E+06	7.31E+03	8.01E+06
Am-242m	5.76E+00	1.56E+02	5.72E+01	1.54E+03	1.77E+01	4.79E+02	2.10E+02	5.69E+03	5.79E+02	1.56E+04	1.43E+01	1.56E+04
Am-243	5.27E+00	1.42E+02	5.23E+01	1.41E+03	1.62E+01	4.39E+02	1.93E+02	5.21E+03	5.30E+02	1.43E+04	1.31E+01	1.43E+04
Am-244	2.03E+03	5.47E+04	2.01E+04	5.43E+05	6.24E+03	1.69E+05	7.40E+04	2.00E+06	2.04E+05	5.50E+06	5.03E+03	5.50E+06
Am-244m	3.10E+04	8.38E+05	3.08E+05	8.32E+06	9.55E+04	2.58E+06	1.13E+06	3.06E+07	3.12E+06	8.42E+07	7.70E+04	8.42E+07
Am-245	1.47E+04	3.98E+05	1.46E+05	3.95E+06	4.53E+04	1.23E+06	5.38E+05	1.45E+07	1.48E+06	4.00E+07	3.65E+04	4.00E+07
Am-246	1.46E+04	3.95E+05	1.45E+05	3.92E+06	4.50E+04	1.22E+06	5.34E+05	1.44E+07	1.47E+06	3.97E+07	3.63E+04	3.97E+07
Am-246m	2.72E+04	7.34E+05	2.70E+05	7.29E+06	8.37E+04	2.26E+06	9.92E+05	2.68E+07	2.73E+06	7.38E+07	6.74E+04	7.38E+07
Am-247	3.04E+04	8.22E+05	3.02E+05	8.16E+06	9.37E+04	2.53E+06	1.11E+06	3.00E+07	3.06E+06	8.26E+07	7.55E+04	8.26E+07
Cm-238	1.52E+04	4.11E+05	1.51E+05	4.08E+06	4.69E+04	1.27E+06	5.56E+05	1.50E+07	1.53E+06	4.14E+07	3.78E+04	4.14E+07
Cm-239	1.14E+04	3.08E+05	1.13E+05	3.06E+06	3.52E+04	9.50E+05	4.17E+05	1.13E+07	1.15E+06	3.10E+07	2.83E+04	3.10E+07
Cm-240	1.11E+02	3.00E+03	1.10E+03	2.98E+04	3.42E+02	9.25E+03	4.06E+03	1.10E+05	1.12E+04	3.02E+05	2.76E+02	3.02E+05
Cm-241	1.00E+03	2.71E+04	9.96E+03	2.69E+05	3.09E+03	8.35E+04	3.67E+04	9.91E+05	1.01E+05	2.72E+06	2.49E+03	2.72E+06

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
Cm-242	6.48E+01	1.75E+03	6.43E+02	1.74E+04	2.00E+02	5.39E+03	2.37E+03	6.40E+04	6.51E+03	1.76E+05	1.61E+02	1.76E+05
Cm-243	6.91E+00	1.87E+02	6.86E+01	1.85E+03	2.13E+01	5.75E+02	2.53E+02	6.83E+03	6.94E+02	1.88E+04	1.71E+01	1.88E+04
Cm-244	8.24E+00	2.23E+02	8.18E+01	2.21E+03	2.54E+01	6.86E+02	3.01E+02	8.14E+03	8.28E+02	2.24E+04	2.04E+01	2.24E+04
Cm-245	5.14E+00	1.39E+02	5.10E+01	1.38E+03	1.58E+01	4.28E+02	1.88E+02	5.08E+03	5.17E+02	1.40E+04	1.28E+01	1.40E+04
Cm-246	5.16E+00	1.39E+02	5.12E+01	1.38E+03	1.59E+01	4.30E+02	1.89E+02	5.10E+03	5.19E+02	1.40E+04	1.28E+01	1.40E+04
Cm-247	5.60E+00	1.51E+02	5.56E+01	1.50E+03	1.73E+01	4.66E+02	2.05E+02	5.53E+03	5.63E+02	1.52E+04	1.39E+01	1.52E+04
Cm-248	1.38E+00	3.72E+01	1.37E+01	3.70E+02	4.24E+00	1.15E+02	5.03E+01	1.36E+03	1.38E+02	3.74E+03	3.42E+00	3.74E+03
Cm-249	2.94E+04	7.95E+05	2.92E+05	7.89E+06	9.06E+04	2.45E+06	1.07E+06	2.90E+07	2.96E+06	7.99E+07	7.30E+04	7.99E+07
Cm-250	2.01E-01	5.44E+00	2.00E+00	5.40E+01	6.20E-01	1.68E+01	7.36E+00	1.99E+02	2.02E+01	5.47E+02	4.99E-01	5.47E+02
Cm-251	3.21E+04	8.69E+05	3.19E+05	8.62E+06	9.90E+04	2.68E+06	1.17E+06	3.17E+07	3.23E+06	8.73E+07	7.98E+04	8.73E+07
Bk-245	1.59E+03	4.29E+04	1.58E+04	4.26E+05	4.89E+03	1.32E+05	5.81E+04	1.57E+06	1.60E+05	4.31E+06	3.94E+03	4.31E+06
Bk-246	2.14E+03	5.78E+04	2.12E+04	5.73E+05	6.58E+03	1.78E+05	7.81E+04	2.11E+06	2.15E+05	5.80E+06	5.30E+03	5.80E+06
Bk-247	2.81E+00	7.59E+01	2.79E+01	7.53E+02	8.65E+00	2.34E+02	1.03E+02	2.77E+03	2.82E+02	7.63E+03	6.97E+00	7.63E+03
Bk-248m	2.06E+03	5.56E+04	2.04E+04	5.52E+05	6.33E+03	1.71E+05	7.51E+04	2.03E+06	2.07E+05	5.58E+06	5.10E+03	5.58E+06
Bk-249	9.95E+02	2.69E+04	9.88E+03	2.67E+05	3.07E+03	8.28E+04	3.64E+04	9.83E+05	1.00E+05	2.70E+06	2.47E+03	2.70E+06
Bk-250	6.80E+03	1.84E+05	6.75E+04	1.82E+06	2.09E+04	5.66E+05	2.48E+05	6.71E+06	6.83E+05	1.85E+07	1.69E+04	1.85E+07
Bk-251	2.43E+04	6.58E+05	2.42E+05	6.53E+06	7.50E+04	2.03E+06	8.90E+05	2.40E+07	2.45E+06	6.61E+07	6.04E+04	6.61E+07
Cf-244	1.30E+04	3.52E+05	1.29E+05	3.49E+06	4.01E+04	1.08E+06	4.76E+05	1.29E+07	1.31E+06	3.54E+07	3.23E+04	3.54E+07
Cf-246	2.69E+02	7.26E+03	2.67E+03	7.21E+04	8.28E+02	2.24E+04	9.82E+03	2.65E+05	2.70E+04	7.30E+05	6.67E+02	7.30E+05
Cf-247	4.29E+04	1.16E+06	4.26E+05	1.15E+07	1.32E+05	3.57E+06	1.57E+06	4.24E+07	4.31E+06	1.16E+08	1.06E+05	1.16E+08
Cf-248	2.66E+01	7.18E+02	2.64E+02	7.13E+03	8.19E+01	2.21E+03	9.71E+02	2.63E+04	2.67E+03	7.22E+04	6.59E+01	7.22E+04
Cf-249	2.79E+00	7.54E+01	2.77E+01	7.48E+02	8.59E+00	2.32E+02	1.02E+02	2.75E+03	2.80E+02	7.57E+03	6.92E+00	7.57E+03
Cf-250	5.60E+00	1.51E+02	5.56E+01	1.50E+03	1.73E+01	4.66E+02	2.05E+02	5.53E+03	5.63E+02	1.52E+04	1.39E+01	1.52E+04

Nuclide	Water Ingestion DCS		Meat Ingestion DCS		Dairy Ingestion DCS		Freshwater Fish Ingestion DCS		Saltwater Shellfish Ingestion DCS		Produce Ingestion DCS	
	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/L)	(pCi/L)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)	(Bq/kg)	(pCi/kg)
Cf-251	2.73E+00	7.39E+01	2.71E+01	7.33E+02	8.42E+00	2.28E+02	9.99E+01	2.70E+03	2.75E+02	7.43E+03	6.78E+00	7.43E+03
Cf-252	8.24E+00	2.23E+02	8.18E+01	2.21E+03	2.54E+01	6.86E+02	3.01E+02	8.14E+03	8.28E+02	2.24E+04	2.04E+01	2.24E+04
Cf-253	4.51E+02	1.22E+04	4.47E+03	1.21E+05	1.39E+03	3.75E+04	1.65E+04	4.45E+05	4.53E+04	1.22E+06	1.12E+03	1.22E+06
Cf-254	2.07E+00	5.58E+01	2.05E+01	5.54E+02	6.36E+00	1.72E+02	7.55E+01	2.04E+03	2.08E+02	5.61E+03	5.13E+00	5.61E+03
Cf-255	2.28E+04	6.16E+05	2.26E+05	6.11E+06	7.02E+04	1.90E+06	8.33E+05	2.25E+07	2.29E+06	6.19E+07	5.65E+04	6.19E+07
Es-249	4.56E+04	1.23E+06	4.52E+05	1.22E+07	1.40E+05	3.79E+06	1.67E+06	4.50E+07	4.58E+06	1.24E+08	1.13E+05	1.24E+08
Es-250	2.01E+03	5.42E+04	1.99E+04	5.38E+05	6.18E+03	1.67E+05	7.33E+04	1.98E+06	2.02E+05	5.45E+06	4.98E+03	5.45E+06
Es-250m	3.16E+04	8.55E+05	3.14E+05	8.49E+06	9.75E+04	2.63E+06	1.16E+06	3.13E+07	3.18E+06	8.60E+07	7.85E+04	8.60E+07
Es-251	5.08E+03	1.37E+05	5.04E+04	1.36E+06	1.56E+04	4.23E+05	1.86E+05	5.01E+06	5.10E+05	1.38E+07	1.26E+04	1.38E+07
Es-253	1.35E+02	3.65E+03	1.34E+03	3.62E+04	4.16E+02	1.12E+04	4.94E+03	1.33E+05	1.36E+04	3.67E+05	3.35E+02	3.67E+05
Es-254	2.71E+01	7.32E+02	2.69E+02	7.27E+03	8.35E+01	2.26E+03	9.90E+02	2.68E+04	2.72E+03	7.36E+04	6.72E+01	7.36E+04
Es-254m	2.08E+02	5.61E+03	2.06E+03	5.57E+04	6.40E+02	1.73E+04	7.59E+03	2.05E+05	2.09E+04	5.64E+05	5.15E+02	5.64E+05
Es-255	1.26E+02	3.39E+03	1.25E+03	3.37E+04	3.87E+02	1.04E+04	4.59E+03	1.24E+05	1.26E+04	3.41E+05	3.11E+02	3.41E+05
Es-256	3.21E+02	8.69E+03	3.19E+03	8.62E+04	9.90E+02	2.68E+04	1.17E+04	3.17E+05	3.23E+04	8.73E+05	7.98E+02	8.73E+05
Fm-251	1.27E+04	3.42E+05	1.26E+05	3.39E+06	3.90E+04	1.05E+06	4.62E+05	1.25E+07	1.27E+06	3.44E+07	3.14E+04	3.44E+07
Fm-252	3.10E+02	8.38E+03	3.08E+03	8.32E+04	9.55E+02	2.58E+04	1.13E+04	3.06E+05	3.12E+04	8.42E+05	7.70E+02	8.42E+05
Fm-253	7.15E+02	1.93E+04	7.10E+03	1.92E+05	2.20E+03	5.95E+04	2.61E+04	7.06E+05	7.18E+04	1.94E+06	1.77E+03	1.94E+06
Fm-254	1.98E+03	5.34E+04	1.96E+04	5.30E+05	6.09E+03	1.65E+05	7.23E+04	1.95E+06	1.99E+05	5.37E+06	4.91E+03	5.37E+06
Fm-255	3.50E+02	9.47E+03	3.48E+03	9.40E+04	1.08E+03	2.92E+04	1.28E+04	3.46E+05	3.52E+04	9.52E+05	8.69E+02	9.52E+05
Fm-256	4.98E+01	1.34E+03	4.94E+02	1.33E+04	1.53E+02	4.14E+03	1.82E+03	4.91E+04	5.00E+03	1.35E+05	1.23E+02	1.35E+05
Fm-257	4.23E+01	1.14E+03	4.20E+02	1.13E+04	1.30E+02	3.52E+03	1.55E+03	4.18E+04	4.25E+03	1.15E+05	1.05E+02	1.15E+05

Table D-2. Inhalation DCS

Nuclide	Inhalation DCS (Bq/m³)	Inhalation DCS (pCi/m³)
H-3	8.10E+03	2.19E+05
Be-7	2.44E+03	6.60E+04
Be-10	4.27E+00	1.15E+02
C-11	6.10E+04	1.65E+06
C-14	2.33E+04	6.30E+05
F-18	2.35E+03	6.36E+04
Na-22	4.96E+00	1.34E+02
Na-24	2.68E+02	7.24E+03
Mg-28	1.04E+02	2.82E+03
Al-26	1.37E+00	3.70E+01
Si-31	1.68E+03	4.54E+04
Si-32	1.35E+00	3.64E+01
P-32	3.57E+01	9.64E+02
P-33	7.97E+01	2.15E+03
S-35	1.00E+02	2.71E+03
S-38	4.69E+02	1.27E+04
Cl-34m	2.84E+03	7.68E+04
Cl-36	3.92E+00	1.06E+02
Cl-38	2.74E+03	7.41E+04
Cl-39	2.70E+03	7.29E+04
K-40	1.76E+00	4.76E+01
K-42	3.83E+02	1.04E+04
K-43	3.62E+02	9.78E+03
K-44	3.92E+03	1.06E+05
K-45	5.94E+03	1.61E+05
Ca-41	1.23E+03	3.33E+04
Ca-45	5.23E+01	1.41E+03
Ca-47	7.30E+01	1.97E+03
Sc-43	1.05E+03	2.83E+04
Sc-44	7.01E+02	1.89E+04
Sc-44m	9.25E+01	2.50E+03
Sc-46	2.06E+01	5.56E+02
Sc-47	1.92E+02	5.20E+03
Sc-48	1.20E+02	3.25E+03

Nuclide	Inhalation DCS (Bq/m³)	Inhalation DCS (pCi/m³)
Sc-49	3.35E+03	9.04E+04
Ti-44	1.17E+00	3.18E+01
Ti-45	1.41E+03	3.80E+04
V-47	4.27E+03	1.15E+05
V-48	5.06E+01	1.37E+03
V-49	1.96E+03	5.30E+04
V-50	2.34E+00	6.31E+01
Cr-48	6.43E+02	1.74E+04
Cr-49	3.74E+03	1.01E+05
Cr-51	3.60E+03	9.73E+04
Mn-51	3.02E+03	8.17E+04
Mn-52	9.41E+01	2.54E+03
Mn-52m	4.40E+03	1.19E+05
Mn-53	4.28E+02	1.16E+04
Mn-54	4.34E+01	1.17E+03
Mn-56	1.01E+03	2.74E+04
Fe-52	2.13E+02	5.76E+03
Fe-55	3.58E+02	9.66E+03
Fe-59	3.79E+01	1.02E+03
Fe-60	1.08E+00	2.91E+01
Co-55	2.61E+02	7.05E+03
Co-56	2.89E+01	7.82E+02
Co-57	2.53E+02	6.83E+03
Co-58	8.78E+01	2.37E+03
Co-58m	1.00E+04	2.71E+05
Co-60	1.40E+01	3.77E+02
Co-60m	1.15E+05	3.11E+06
Co-61	2.80E+03	7.57E+04
Co-62m	6.40E+03	1.73E+05
Ni-56	1.55E+02	4.18E+03
Ni-57	2.55E+02	6.89E+03
Ni-59	1.06E+03	2.85E+04
Ni-63	2.88E+02	7.78E+03
Ni-65	1.55E+03	4.18E+04
Ni-66	8.05E+01	2.18E+03
Cu-60	3.70E+03	1.00E+05
Cu-61	1.73E+03	4.68E+04
Cu-64	1.15E+03	3.11E+04

Nuclide	Inhalation DCS (Bq/m³)	Inhalation DCS (pCi/m³)
Cu-67	2.36E+02	6.39E+03
Zn-62	2.57E+02	6.95E+03
Zn-63	3.69E+03	9.98E+04
Zn-65	8.68E+01	2.35E+03
Zn-69	5.16E+03	1.39E+05
Zn-69m	5.33E+02	1.44E+04
Zn-71m	8.49E+02	2.30E+04
Zn-72	1.10E+02	2.97E+03
Ga-65	7.58E+03	2.05E+05
Ga-66	2.74E+02	7.41E+03
Ga-67	5.19E+02	1.40E+04
Ga-68	2.54E+03	6.88E+04
Ga-70	8.01E+03	2.17E+05
Ga-72	2.33E+02	6.28E+03
Ga-73	8.54E+02	2.31E+04
Ge-66	1.42E+03	3.84E+04
Ge-67	5.26E+03	1.42E+05
Ge-68	4.66E+00	1.26E+02
Ge-69	5.33E+02	1.44E+04
Ge-71	1.09E+04	2.93E+05
Ge-75	3.49E+03	9.43E+04
Ge-77	3.47E+02	9.38E+03
Ge-78	1.36E+03	3.67E+04
As-69	6.08E+03	1.64E+05
As-70	1.81E+03	4.89E+04
As-71	3.44E+02	9.30E+03
As-72	1.37E+02	3.70E+03
As-73	1.03E+02	2.78E+03
As-74	5.62E+01	1.52E+03
As-76	1.71E+02	4.63E+03
As-77	3.23E+02	8.74E+03
As-78	1.45E+03	3.91E+04
Se-70	3.36E+03	9.08E+04
Se-72	5.50E+01	1.49E+03
Se-73	1.47E+03	3.98E+04
Se-73m	1.30E+04	3.52E+05
Se-75	1.26E+02	3.41E+03
Se-79	9.30E+01	2.51E+03

Nuclide	Inhalation DCS (Bq/m³)	Inhalation DCS (pCi/m³)
Se-81	1.63E+04	4.39E+05
Se-81m	7.70E+03	2.08E+05
Se-83	7.07E+03	1.91E+05
Br-74	3.29E+03	8.89E+04
Br-74m	1.94E+03	5.24E+04
Br-75	2.36E+03	6.37E+04
Br-76	3.07E+02	8.30E+03
Br-77	1.46E+03	3.95E+04
Br-80	9.03E+03	2.44E+05
Br-80m	1.25E+03	3.38E+04
Br-82	2.02E+02	5.47E+03
Br-83	2.59E+03	6.99E+04
Br-84	3.38E+03	9.14E+04
Rb-78	4.40E+03	1.19E+05
Rb-79	4.57E+03	1.23E+05
Rb-81	1.87E+03	5.06E+04
Rb-81m	8.14E+03	2.20E+05
Rb-82m	8.78E+02	2.37E+04
Rb-83	1.00E+02	2.71E+03
Rb-84	4.82E+01	1.30E+03
Rb-84m	1.55E+04	4.18E+05
Rb-86	2.96E+01	8.01E+02
Rb-87	9.30E+00	2.51E+02
Rb-88	4.69E+03	1.27E+05
Rb-89	5.92E+03	1.60E+05
Sr-80	8.63E+02	2.33E+04
Sr-81	4.20E+03	1.14E+05
Sr-82	1.53E+01	4.14E+02
Sr-83	3.98E+02	1.07E+04
Sr-85	2.10E+02	5.67E+03
Sr-85m	3.15E+04	8.51E+05
Sr-87m	6.51E+03	1.76E+05
Sr-89	2.29E+01	6.18E+02
Sr-90	3.99E+00	1.08E+02
Sr-91	3.52E+02	9.51E+03
Sr-92	6.25E+02	1.69E+04
Y-84m	2.08E+03	5.63E+04
Y-85	1.35E+03	3.64E+04

Nuclide	Inhalation DCS (Bq/m³)	Inhalation DCS (pCi/m³)
Y-85m	7.66E+02	2.07E+04
Y-86	2.75E+02	7.42E+03
Y-86m	4.57E+03	1.23E+05
Y-87	3.37E+02	9.10E+03
Y-87m	9.41E+02	2.54E+04
Y-88	2.27E+01	6.13E+02
Y-90	8.83E+01	2.39E+03
Y-90m	1.30E+03	3.52E+04
Y-91	1.58E+01	4.26E+02
Y-91m	1.17E+04	3.18E+05
Y-92	7.27E+02	1.96E+04
Y-93	3.00E+02	8.12E+03
Y-94	4.75E+03	1.28E+05
Y-95	8.63E+03	2.33E+05
Zr-86	3.08E+02	8.33E+03
Zr-87	1.53E+03	4.14E+04
Zr-88	5.46E+01	1.48E+03
Zr-89	2.54E+02	6.87E+03
Zr-93	1.73E+01	4.68E+02
Zr-95	2.95E+01	7.98E+02
Zr-97	1.42E+02	3.84E+03
Nb-88	4.41E+03	1.19E+05
Nb-89	1.14E+03	3.08E+04
Nb-89m	1.95E+03	5.26E+04
Nb-90	2.05E+02	5.53E+03
Nb-91	5.16E+02	1.39E+04
Nb-91m	4.28E+01	1.16E+03
Nb-92	2.86E+01	7.73E+02
Nb-92m	3.13E+02	8.45E+03
Nb-93m	2.56E+02	6.91E+03
Nb-94	1.32E+01	3.58E+02
Nb-95	9.53E+01	2.57E+03
Nb-95m	1.74E+02	4.71E+03
Nb-96	2.09E+02	5.65E+03
Nb-97	3.09E+03	8.35E+04
Nb-98m	2.30E+03	6.23E+04
Mo-90	3.91E+02	1.06E+04
Mo-91	6.54E+03	1.77E+05

Nuclide	Inhalation DCS (Bq/m³)	Inhalation DCS (pCi/m³)
Mo-93	2.58E+02	6.97E+03
Mo-93m	7.62E+02	2.06E+04
Mo-99	1.52E+02	4.10E+03
Mo-101	5.28E+03	1.43E+05
Mo-102	5.41E+03	1.46E+05
Tc-93	2.83E+03	7.64E+04
Tc-93m	6.30E+03	1.70E+05
Tc-94	1.02E+03	2.76E+04
Tc-94m	2.80E+03	7.57E+04
Tc-95	1.19E+03	3.22E+04
Tc-95m	1.50E+02	4.06E+03
Tc-96	1.88E+02	5.09E+03
Tc-96m	1.76E+04	4.75E+05
Tc-97	6.20E+02	1.68E+04
Tc-97m	4.40E+01	1.19E+03
Tc-98	1.80E+01	4.85E+02
Tc-99	3.54E+01	9.55E+02
Tc-99m	6.98E+03	1.89E+05
Tc-101	1.12E+04	3.02E+05
Tc-104	4.48E+03	1.21E+05
Ru-94	3.00E+03	8.11E+04
Ru-95	3.64E+03	9.84E+04
Ru-97	1.26E+03	3.41E+04
Ru-103	5.99E+01	1.62E+03
Ru-105	7.17E+02	1.94E+04
Ru-106	5.04E+00	1.36E+02
Rh-97	5.50E+03	1.49E+05
Rh-97m	4.73E+03	1.28E+05
Rh-99	1.11E+02	3.00E+03
Rh-99m	3.18E+03	8.60E+04
Rh-100	3.77E+02	1.02E+04
Rh-101	2.81E+01	7.60E+02
Rh-101m	6.57E+02	1.77E+04
Rh-102	1.95E+01	5.27E+02
Rh-102m	7.34E+00	1.98E+02
Rh-103m	5.04E+04	1.36E+06
Rh-105	3.89E+02	1.05E+04
Rh-106m	1.18E+03	3.20E+04

Nuclide	Inhalation DCS (Bq/m³)	Inhalation DCS (pCi/m³)
Rh-107	8.01E+03	2.17E+05
Pd-98	4.66E+03	1.26E+05
Pd-99	6.85E+03	1.85E+05
Pd-100	1.67E+02	4.50E+03
Pd-101	2.12E+03	5.73E+04
Pd-103	3.13E+02	8.45E+03
Pd-107	2.37E+02	6.41E+03
Pd-109	3.55E+02	9.60E+03
Pd-111	4.98E+03	1.34E+05
Pd-112	1.18E+02	3.20E+03
Ag-101	9.77E+03	2.64E+05
Ag-102	7.27E+03	1.96E+05
Ag-103	5.33E+03	1.44E+05
Ag-104	3.51E+03	9.49E+04
Ag-104m	4.52E+03	1.22E+05
Ag-105	1.84E+02	4.97E+03
Ag-106	8.93E+03	2.41E+05
Ag-108m	1.88E+01	5.09E+02
Ag-110m	1.80E+01	4.87E+02
Ag-111	8.93E+01	2.41E+03
Ag-112	7.93E+02	2.14E+04
Ag-113	8.54E+02	2.31E+04
Ag-115	4.88E+03	1.32E+05
Cd-104	2.67E+03	7.21E+04
Cd-105	5.46E+03	1.48E+05
Cd-107	1.65E+03	4.45E+04
Cd-109	1.69E+01	4.57E+02
Cd-111m	5.87E+03	1.59E+05
Cd-113	1.26E+00	3.41E+01
Cd-113m	1.34E+00	3.61E+01
Cd-115	1.25E+02	3.38E+03
Cd-115m	1.84E+01	4.97E+02
Cd-117	7.74E+02	2.09E+04
Cd-117m	6.40E+02	1.73E+04
Cd-118	1.63E+03	4.40E+04
In-107	5.11E+03	1.38E+05
In-108	2.74E+03	7.40E+04
In-108m	3.45E+03	9.32E+04

Nuclide	Inhalation DCS (Bq/m³)	Inhalation DCS (pCi/m³)
In-109	3.33E+03	9.00E+04
In-110	9.53E+02	2.57E+04
In-110m	2.60E+03	7.03E+04
In-111	5.44E+02	1.47E+04
In-112	1.66E+04	4.48E+05
In-112m	6.01E+03	1.62E+05
In-113m	6.25E+03	1.69E+05
In-114m	1.04E+01	2.82E+02
In-115	3.82E-01	1.03E+01
In-115m	2.11E+03	5.70E+04
In-116m	2.77E+03	7.47E+04
In-117	4.43E+03	1.20E+05
In-117m	1.75E+03	4.72E+04
In-119m	7.13E+03	1.93E+05
Sn-108	1.12E+04	3.02E+05
Sn-109	1.09E+04	2.93E+05
Sn-110	7.66E+02	2.07E+04
Sn-111	1.02E+04	2.76E+05
Sn-113	3.52E+01	9.51E+02
Sn-113m	3.01E+04	8.14E+05
Sn-117m	5.04E+01	1.36E+03
Sn-119m	4.12E+01	1.11E+03
Sn-121	5.50E+02	1.49E+04
Sn-121m	9.83E+00	2.66E+02
Sn-123	1.10E+01	2.97E+02
Sn-123m	4.69E+03	1.27E+05
Sn-125	3.94E+01	1.06E+03
Sn-126	9.41E-01	2.54E+01
Sn-127	9.41E+02	2.54E+04
Sn-128	1.37E+03	3.70E+04
Sb-115	9.95E+03	2.69E+05
Sb-116	9.19E+03	2.48E+05
Sb-116m	2.86E+03	7.72E+04
Sb-117	7.85E+03	2.12E+05
Sb-118m	1.06E+03	2.87E+04
Sb-119	3.39E+03	9.16E+04
Sb-120	1.86E+04	5.03E+05
Sb-120m	1.30E+02	3.52E+03

Nuclide	Inhalation DCS (Bq/m³)	Inhalation DCS (pCi/m³)
Sb-122	1.28E+02	3.46E+03
Sb-124	2.19E+01	5.91E+02
Sb-124n	2.09E+04	5.65E+05
Sb-125	2.93E+01	7.92E+02
Sb-126	4.41E+01	1.19E+03
Sb-126m	6.79E+03	1.84E+05
Sb-127	8.14E+01	2.20E+03
Sb-128	3.10E+02	8.38E+03
Sb-128m	9.08E+03	2.46E+05
Sb-129	5.52E+02	1.49E+04
Sb-130	2.52E+03	6.81E+04
Te-114	4.68E+03	1.26E+05
Te-116	1.09E+03	2.95E+04
Te-117	4.16E+03	1.12E+05
Te-118	5.83E+01	1.58E+03
Te-119	1.24E+03	3.35E+04
Te-119m	2.55E+02	6.90E+03
Te-121	3.27E+02	8.83E+03
Te-121m	3.30E+01	8.93E+02
Te-123	2.68E+02	7.24E+03
Te-123m	3.56E+01	9.62E+02
Te-125m	4.22E+01	1.14E+03
Te-127	1.03E+03	2.80E+04
Te-127m	1.90E+01	5.13E+02
Te-129	3.59E+03	9.71E+04
Te-129m	2.15E+01	5.82E+02
Te-131	4.62E+03	1.25E+05
Te-131m	1.25E+02	3.38E+03
Te-132	6.30E+01	1.70E+03
Te-133	6.65E+03	1.80E+05
Te-133m	1.67E+03	4.51E+04
Te-134	2.07E+03	5.59E+04
I-118	7.70E+02	2.08E+04
I-119	2.76E+03	7.46E+04
I-120	4.82E+02	1.30E+04
I-120m	9.65E+02	2.61E+04
I-121	1.63E+03	4.40E+04
I-123	5.48E+02	1.48E+04

Nuclide	Inhalation DCS (Bq/m³)	Inhalation DCS (pCi/m³)
I-124	9.95E+00	2.69E+02
I-125	9.47E+00	2.56E+02
I-126	4.54E+00	1.23E+02
I-129	1.45E+00	3.91E+01
I-130	6.62E+01	1.79E+03
I-131	5.99E+00	1.62E+02
I-132	4.04E+02	1.09E+04
I-132m	5.28E+02	1.43E+04
I-133	2.85E+01	7.71E+02
I-134	9.65E+02	2.61E+04
I-135	1.35E+02	3.64E+03
Cs-125	1.16E+04	3.13E+05
Cs-127	6.28E+03	1.70E+05
Cs-129	3.03E+03	8.18E+04
Cs-130	1.70E+04	4.59E+05
Cs-131	4.73E+03	1.28E+05
Cs-132	5.70E+02	1.54E+04
Cs-134	2.38E+01	6.44E+02
Cs-134m	9.25E+03	2.50E+05
Cs-135	1.71E+02	4.63E+03
Cs-135m	1.08E+04	2.91E+05
Cs-136	1.13E+02	3.06E+03
Cs-137	3.40E+01	9.18E+02
Cs-138	4.99E+03	1.35E+05
Ba-124	5.94E+03	1.61E+05
Ba-126	1.21E+03	3.27E+04
Ba-127	1.20E+04	3.25E+05
Ba-128	1.00E+02	2.71E+03
Ba-129	4.72E+03	1.28E+05
Ba-129m	2.87E+03	7.76E+04
Ba-131	1.85E+02	4.99E+03
Ba-131m	1.84E+04	4.98E+05
Ba-133	4.25E+01	1.15E+03
Ba-133m	3.14E+02	8.48E+03
Ba-135m	4.05E+02	1.09E+04
Ba-139	2.33E+03	6.30E+04
Ba-140	2.74E+01	7.41E+02
Ba-141	3.93E+03	1.06E+05

Nuclide	Inhalation DCS (Bq/m³)	Inhalation DCS (pCi/m³)
Ba-142	6.38E+03	1.72E+05
La-129	1.06E+04	2.85E+05
La-131	5.58E+03	1.51E+05
La-132	7.13E+02	1.93E+04
La-132m	6.23E+03	1.68E+05
La-133	7.51E+03	2.03E+05
La-135	8.49E+03	2.30E+05
La-137	1.66E+01	4.48E+02
La-138	9.65E-01	2.61E+01
La-140	1.16E+02	3.13E+03
La-141	8.10E+02	2.19E+04
La-142	1.46E+03	3.95E+04
La-143	5.77E+03	1.56E+05
Ce-130	3.82E+03	1.03E+05
Ce-131	9.65E+03	2.61E+05
Ce-132	9.47E+02	2.56E+04
Ce-133	2.65E+03	7.16E+04
Ce-133m	1.13E+03	3.06E+04
Ce-134	9.77E+01	2.64E+03
Ce-135	9.59E+02	2.59E+04
Ce-137	1.19E+04	3.22E+05
Ce-137m	3.24E+02	8.76E+03
Ce-139	8.27E+01	2.23E+03
Ce-141	4.41E+01	1.19E+03
Ce-143	1.77E+02	4.78E+03
Ce-144	3.86E+00	1.04E+02
Pr-134	6.20E+03	1.68E+05
Pr-134m	4.08E+03	1.10E+05
Pr-135	6.38E+03	1.72E+05
Pr-136	9.30E+03	2.51E+05
Pr-137	6.79E+03	1.84E+05
Pr-138m	1.72E+03	4.65E+04
Pr-139	6.48E+03	1.75E+05
Pr-142	2.34E+02	6.33E+03
Pr-142m	1.84E+04	4.97E+05
Pr-143	5.74E+01	1.55E+03
Pr-144	7.17E+03	1.94E+05
Pr-145	7.77E+02	2.10E+04

Nuclide	Inhalation DCS (Bq/m³)	Inhalation DCS (pCi/m³)
Pr-146	4.36E+03	1.18E+05
Pr-147	7.37E+03	1.99E+05
Nd-135	4.91E+03	1.33E+05
Nd-136	2.56E+03	6.91E+04
Nd-136	2.45E+03	6.62E+04
Nd-137	7.74E+03	2.09E+05
Nd-137	4.61E+03	1.25E+05
Nd-138	5.16E+02	1.39E+04
Nd-139	1.25E+04	3.38E+05
Nd-139	1.19E+04	3.22E+05
Nd-139m	1.41E+03	3.80E+04
Nd-139m	8.63E+02	2.33E+04
Nd-140	1.17E+02	3.18E+03
Nd-141	2.54E+04	6.87E+05
Nd-141	2.45E+04	6.62E+05
Nd-144	7.77E-03	2.10E-01
Nd-144	1.92E-02	5.20E-01
Nd-147	5.85E+01	1.58E+03
Nd-149	1.47E+03	3.98E+04
Nd-151	7.62E+03	2.06E+05
Nd-152	5.58E+03	1.51E+05
Pm-141	9.03E+03	2.44E+05
Pm-143	4.78E+01	1.29E+03
Pm-144	8.18E+00	2.21E+02
Pm-145	1.81E+01	4.90E+02
Pm-146	3.27E+00	8.83E+01
Pm-147	1.96E+01	5.30E+02
Pm-148	6.23E+01	1.68E+03
Pm-148m	2.48E+01	6.71E+02
Pm-149	1.86E+02	5.04E+03
Pm-150	1.00E+03	2.71E+04
Pm-151	2.82E+02	7.61E+03
Sm-140	3.99E+03	1.08E+05
Sm-141	8.22E+03	2.22E+05
Sm-141m	4.02E+03	1.09E+05
Sm-142	1.76E+03	4.76E+04
Sm-145	4.73E+01	1.28E+03
Sm-146	5.85E-03	1.58E-01

Nuclide	Inhalation DCS (Bq/m³)	Inhalation DCS (pCi/m³)
Sm-147	6.40E-03	1.73E-01
Sm-148	7.44E-03	2.01E-01
Sm-151	1.59E+01	4.29E+02
Sm-153	1.98E+02	5.35E+03
Sm-155	7.44E+03	2.01E+05
Sm-156	5.62E+02	1.52E+04
Eu-145	2.57E+02	6.93E+03
Eu-146	1.68E+02	4.54E+03
Eu-147	1.19E+02	3.22E+03
Eu-148	3.77E+01	1.02E+03
Eu-149	2.44E+02	6.60E+03
Eu-150	1.17E+00	3.15E+01
Eu-150m	6.40E+02	1.73E+04
Eu-152	1.57E+00	4.25E+01
Eu-152m	6.06E+02	1.64E+04
Eu-152n	1.55E+04	4.18E+05
Eu-154	1.36E+00	3.67E+01
Eu-154m	3.28E+04	8.87E+05
Eu-155	1.13E+01	3.06E+02
Eu-156	3.54E+01	9.58E+02
Eu-157	4.11E+02	1.11E+04
Eu-158	2.68E+03	7.23E+04
Eu-159	5.48E+03	1.48E+05
Gd-145	7.41E+03	2.00E+05
Gd-146	2.01E+01	5.42E+02
Gd-147	3.00E+02	8.12E+03
Gd-148	5.83E-03	1.58E-01
Gd-149	1.49E+02	4.02E+03
Gd-150	6.10E-03	1.65E-01
Gd-151	1.19E+02	3.22E+03
Gd-152	7.77E-03	2.10E-01
Gd-153	5.90E+01	1.59E+03
Gd-159	4.45E+02	1.20E+04
Tb-147	1.77E+03	4.79E+04
Tb-148	1.89E+03	5.10E+04
Tb-149	3.21E+01	8.67E+02
Tb-150	1.21E+03	3.27E+04
Tb-151	5.28E+02	1.43E+04

Nuclide	Inhalation DCS (Bq/m³)	Inhalation DCS (pCi/m³)
Tb-152	4.09E+02	1.11E+04
Tb-153	5.74E+02	1.55E+04
Tb-154	3.63E+02	9.82E+03
Tb-155	4.46E+02	1.21E+04
Tb-156	1.09E+02	2.93E+03
Tb-156m	6.71E+02	1.81E+04
Tb-156n	1.22E+03	3.30E+04
Tb-157	4.57E+01	1.23E+03
Tb-158	1.42E+00	3.84E+01
Tb-160	1.70E+01	4.61E+02
Tb-161	9.83E+01	2.66E+03
Tb-163	7.70E+03	2.08E+05
Dy-151	1.03E+03	2.80E+04
Dy-152	2.09E+03	5.66E+04
Dy-153	1.03E+03	2.80E+04
Dy-154	5.70E-03	1.54E-01
Dy-155	1.43E+03	3.87E+04
Dy-157	4.14E+03	1.12E+05
Dy-159	2.90E+02	7.85E+03
Dy-165	2.08E+03	5.62E+04
Dy-166	6.51E+01	1.76E+03
Ho-154	8.59E+03	2.32E+05
Ho-155	5.44E+03	1.47E+05
Ho-156	2.38E+03	6.44E+04
Ho-157	2.66E+04	7.19E+05
Ho-159	1.97E+04	5.31E+05
Ho-160	9.59E+03	2.59E+05
Ho-161	1.74E+04	4.70E+05
Ho-162	4.56E+04	1.23E+06
Ho-162m	6.23E+03	1.68E+05
Ho-163	5.54E+02	1.50E+04
Ho-164	1.53E+04	4.14E+05
Ho-164m	1.12E+04	3.04E+05
Ho-166	1.86E+02	5.02E+03
Ho-166m	5.28E-01	1.43E+01
Ho-167	1.71E+03	4.63E+04
Er-156	6.57E+03	1.77E+05
Er-159	7.55E+03	2.04E+05

Nuclide	Inhalation DCS (Bq/m³)	Inhalation DCS (pCi/m³)
Er-161	2.43E+03	6.57E+04
Er-163	1.00E+05	2.71E+06
Er-165	1.50E+04	4.06E+05
Er-169	1.22E+02	3.30E+03
Er-171	5.79E+02	1.56E+04
Er-172	1.12E+02	3.04E+03
Tm-161	5.11E+03	1.38E+05
Tm-162	6.51E+03	1.76E+05
Tm-163	3.45E+03	9.32E+04
Tm-165	5.70E+02	1.54E+04
Tm-166	7.17E+02	1.94E+04
Tm-167	1.06E+02	2.87E+03
Tm-168	2.79E+01	7.54E+02
Tm-170	1.55E+01	4.18E+02
Tm-171	6.30E+01	1.70E+03
Tm-172	1.10E+02	2.97E+03
Tm-173	6.94E+02	1.88E+04
Tm-175	6.91E+03	1.87E+05
Yb-162	7.48E+03	2.02E+05
Yb-163	1.53E+04	4.14E+05
Yb-164	2.94E+03	7.95E+04
Yb-166	1.76E+02	4.74E+03
Yb-167	1.93E+04	5.22E+05
Yb-169	4.16E+01	1.12E+03
Yb-175	1.93E+02	5.21E+03
Yb-177	1.85E+03	5.00E+04
Yb-178	1.81E+03	4.89E+04
Lu-165	9.59E+03	2.59E+05
Lu-167	3.43E+03	9.26E+04
Lu-169	3.03E+02	8.18E+03
Lu-170	2.06E+02	5.58E+03
Lu-171	1.41E+02	3.80E+03
Lu-172	8.68E+01	2.35E+03
Lu-173	2.96E+01	8.01E+02
Lu-174	1.93E+01	5.21E+02
Lu-174m	3.22E+01	8.69E+02
Lu-176	9.70E-01	2.62E+01
Lu-176m	1.18E+03	3.20E+04

Nuclide	Inhalation DCS (Bq/m³)	Inhalation DCS (pCi/m³)
Lu-177	1.18E+02	3.20E+03
Lu-177m	8.88E+00	2.40E+02
Lu-178	5.30E+03	1.43E+05
Lu-178m	4.21E+03	1.14E+05
Lu-179	1.18E+03	3.20E+04
Hf-170	4.58E+02	1.24E+04
Hf-172	4.22E+00	1.14E+02
Hf-173	7.70E+02	2.08E+04
Hf-174	4.88E-03	1.32E-01
Hf-175	1.01E+02	2.72E+03
Hf-177m	1.41E+03	3.80E+04
Hf-178m	6.79E-01	1.84E+01
Hf-179m	3.19E+01	8.62E+02
Hf-180m	9.36E+02	2.53E+04
Hf-181	2.40E+01	6.48E+02
Hf-182	5.14E-01	1.39E+01
Hf-182m	2.56E+03	6.91E+04
Hf-183	2.14E+03	5.78E+04
Hf-184	3.83E+02	1.04E+04
Ta-172	3.63E+03	9.82E+04
Ta-173	1.67E+03	4.51E+04
Ta-174	2.74E+03	7.40E+04
Ta-175	8.73E+02	2.36E+04
Ta-176	6.48E+02	1.75E+04
Ta-177	1.28E+03	3.46E+04
Ta-178m	1.74E+03	4.71E+04
Ta-179	2.86E+02	7.73E+03
Ta-180	3.02E+03	8.15E+04
Ta-182	1.37E+01	3.70E+02
Ta-182m	6.01E+03	1.62E+05
Ta-183	6.25E+01	1.69E+03
Ta-184	3.06E+02	8.28E+03
Ta-185	2.69E+03	7.28E+04
Ta-186	7.30E+03	1.97E+05
W-177	2.99E+03	8.09E+04
W-178	1.68E+02	4.55E+03
W-179	9.65E+04	2.61E+06
W-181	4.81E+02	1.30E+04

Nuclide	Inhalation DCS (Bq/m³)	Inhalation DCS (pCi/m³)
W-185	3.69E+01	9.96E+02
W-187	3.23E+02	8.74E+03
W-188	9.08E+00	2.46E+02
W-190	1.83E+03	4.94E+04
Re-178	8.22E+03	2.22E+05
Re-179	1.18E+04	3.20E+05
Re-181	4.98E+02	1.34E+04
Re-182	1.06E+02	2.85E+03
Re-182m	6.10E+02	1.65E+04
Re-183	3.97E+01	1.07E+03
Re-184	6.08E+01	1.64E+03
Re-184m	1.40E+01	3.77E+02
Re-186	1.19E+02	3.22E+03
Re-186m	2.43E+00	6.57E+01
Re-187	3.67E+03	9.91E+04
Re-188	2.34E+02	6.32E+03
Re-188m	8.83E+03	2.39E+05
Re-189	3.09E+02	8.35E+03
Re-190m	6.40E+02	1.73E+04
Os-180	8.83E+03	2.39E+05
Os-181	2.07E+03	5.60E+04
Os-182	3.33E+02	9.00E+03
Os-183	7.10E+02	1.92E+04
Os-183m	8.98E+02	2.43E+04
Os-185	9.03E+01	2.44E+03
Os-186	3.46E-02	9.36E-01
Os-189m	2.43E+04	6.58E+05
Os-191	7.07E+01	1.91E+03
Os-191m	8.49E+02	2.30E+04
Os-193	2.47E+02	6.68E+03
Os-194	1.72E+00	4.65E+01
Os-196	2.35E+03	6.36E+04
Ir-182	5.09E+03	1.38E+05
Ir-183	3.32E+03	8.97E+04
Ir-184	1.05E+03	2.83E+04
Ir-185	5.66E+02	1.53E+04
Ir-186	3.71E+02	1.00E+04
Ir-186m	2.62E+03	7.07E+04

Nuclide	Inhalation DCS (Bq/m³)	Inhalation DCS (pCi/m³)
Ir-187	1.72E+03	4.64E+04
Ir-188	2.74E+02	7.40E+03
Ir-189	2.50E+02	6.75E+03
Ir-190	1.00E+02	2.71E+03
Ir-190m	2.24E+04	6.05E+05
Ir-190n	1.57E+03	4.25E+04
Ir-192	2.14E+01	5.78E+02
Ir-192n	2.55E+00	6.90E+01
Ir-193m	1.16E+02	3.13E+03
Ir-194	2.31E+02	6.26E+03
Ir-194m	1.17E+01	3.18E+02
Ir-195	1.88E+03	5.08E+04
Ir-195m	1.06E+03	2.87E+04
Pt-184	5.11E+03	1.38E+05
Pt-186	1.85E+03	4.99E+04
Pt-187	1.88E+03	5.09E+04
Pt-188	6.85E+01	1.85E+03
Pt-189	7.58E+02	2.05E+04
Pt-190	2.80E-02	7.57E-01
Pt-191	3.71E+02	1.00E+04
Pt-193	2.15E+02	5.81E+03
Pt-193m	1.45E+02	3.91E+03
Pt-195m	1.21E+02	3.27E+03
Pt-197	3.63E+02	9.80E+03
Pt-197m	1.70E+03	4.59E+04
Pt-199	4.62E+03	1.25E+05
Pt-202	5.99E+01	1.62E+03
Au-186	6.43E+03	1.74E+05
Au-190	5.39E+03	1.46E+05
Au-191	2.07E+03	5.59E+04
Au-192	1.36E+03	3.67E+04
Au-193	1.27E+03	3.43E+04
Au-194	5.60E+02	1.51E+04
Au-195	7.81E+01	2.11E+03
Au-196	4.13E+02	1.12E+04
Au-196m	3.13E+02	8.45E+03
Au-198	1.59E+02	4.29E+03
Au-198m	7.62E+01	2.06E+03

Nuclide	Inhalation DCS (Bq/m³)	Inhalation DCS (pCi/m³)
Au-199	1.74E+02	4.70E+03
Au-200	3.77E+03	1.02E+05
Au-200m	1.97E+02	5.31E+03
Au-201	7.70E+03	2.08E+05
Hg-190	1.88E+03	5.07E+04
Hg-191m	4.50E+02	1.22E+04
Hg-192	1.45E+02	3.91E+03
Hg-193	1.66E+02	4.47E+03
Hg-193m	4.81E+01	1.30E+03
Hg-194	3.68E+00	9.94E+01
Hg-195	9.59E+01	2.59E+03
Hg-195m	1.78E+01	4.80E+02
Hg-197	3.09E+01	8.35E+02
Hg-197m	2.45E+01	6.62E+02
Hg-199m	8.18E+02	2.21E+04
Hg-203	2.03E+01	5.48E+02
Tl-194	6.79E+03	1.84E+05
Tl-194m	4.41E+03	1.19E+05
Tl-195	5.24E+03	1.42E+05
Tl-196	3.32E+03	8.99E+04
Tl-197	3.47E+03	9.38E+04
Tl-198	1.71E+03	4.63E+04
Tl-198m	1.93E+03	5.22E+04
Tl-199	2.69E+03	7.27E+04
Tl-200	7.30E+02	1.97E+04
Tl-201	7.10E+02	1.92E+04
Tl-202	3.40E+02	9.20E+03
Tl-204	7.62E+00	2.06E+02
Pb-194	1.03E+04	2.80E+05
Pb-195m	5.96E+03	1.61E+05
Pb-196	5.43E+03	1.47E+05
Pb-197m	2.96E+03	8.01E+04
Pb-198	2.12E+03	5.73E+04
Pb-199	4.50E+03	1.22E+05
Pb-200	4.14E+02	1.12E+04
Pb-201	1.17E+03	3.18E+04
Pb-202	7.93E+00	2.14E+02
Pb-202m	1.32E+03	3.58E+04

Nuclide	Inhalation DCS (Bq/m³)	Inhalation DCS (pCi/m³)
Pb-203	6.54E+02	1.77E+04
Pb-204m	4.54E+03	1.23E+05
Pb-205	6.06E+02	1.64E+04
Pb-209	2.42E+03	6.54E+04
Pb-210	1.29E-01	3.49E+00
Pb-211	1.24E+01	3.35E+02
Pb-212	8.40E-01	2.27E+01
Pb-214	1.06E+01	2.87E+02
Bi-200	3.56E+03	9.62E+04
Bi-201	1.74E+03	4.70E+04
Bi-202	2.08E+03	5.61E+04
Bi-203	4.57E+02	1.23E+04
Bi-204	4.10E+02	1.11E+04
Bi-205	1.27E+02	3.43E+03
Bi-206	7.27E+01	1.96E+03
Bi-207	3.83E+00	1.04E+02
Bi-208	4.08E+00	1.10E+02
Bi-210	1.07E+00	2.89E+01
Bi-210m	1.46E-02	3.95E-01
Bi-212	4.26E+00	1.15E+02
Bi-213	4.40E+00	1.19E+02
Bi-214	9.08E+00	2.46E+02
Po-203	3.03E+03	8.18E+04
Po-204	3.69E+02	9.96E+03
Po-205	3.00E+03	8.11E+04
Po-206	2.49E+00	6.74E+01
Po-207	1.49E+03	4.02E+04
Po-208	3.76E-02	1.02E+00
Po-209	3.89E-02	1.05E+00
Po-210	4.34E-02	1.17E+00
At-205	2.00E+02	5.39E+03
At-206	5.96E+02	1.61E+04
At-207	6.48E+01	1.75E+03
At-208	2.38E+02	6.44E+03
At-209	5.14E+01	1.39E+03
At-210	1.34E+01	3.61E+02
At-211	1.20E+00	3.25E+01
Fr-212	2.24E+01	6.05E+02

Nuclide	Inhalation DCS (Bq/m³)	Inhalation DCS (pCi/m³)
Fr-222	5.07E+00	1.37E+02
Fr-223	1.17E+01	3.18E+02
Ra-223	1.94E-02	5.25E-01
Ra-224	4.85E-02	1.31E+00
Ra-225	2.29E-02	6.18E-01
Ra-226	4.09E-02	1.11E+00
Ra-227	5.44E+02	1.47E+04
Ra-228	5.07E-02	1.37E+00
Ra-230	1.21E+03	3.27E+04
Ac-224	1.26E+00	3.41E+01
Ac-225	1.70E-02	4.60E-01
Ac-226	1.11E-01	3.00E+00
Ac-227	9.70E-04	2.62E-02
Ac-228	9.70E+00	2.62E+02
Th-228	3.59E-03	9.71E-02
Th-229	2.07E-03	5.59E-02
Th-230	1.06E-02	2.87E-01
Th-232	6.10E-03	1.65E-01
Th-234	1.82E+01	4.91E+02
Pa-227	1.82E+00	4.93E+01
Pa-228	2.01E+00	5.43E+01
Pa-229	2.01E+01	5.43E+02
Pa-230	2.13E-01	5.75E+00
Pa-231	6.59E-04	1.78E-02
Pa-232	6.01E+01	1.62E+03
Pa-233	3.43E+01	9.26E+02
Pa-234	3.93E+02	1.06E+04
Pa-235	7.89E+03	2.13E+05
U-230	1.06E-02	2.87E-01
U-231	2.95E+02	7.97E+03
U-232	1.81E-02	4.90E-01
U-233	4.02E-02	1.09E+00
U-234	4.10E-02	1.11E+00
U-235	4.62E-02	1.25E+00
U-235m	1.73E+08	4.69E+09
U-236	4.48E-02	1.21E+00
U-237	8.49E+01	2.30E+03
U-238	4.98E-02	1.34E+00

Nuclide	Inhalation DCS (Bq/m³)	Inhalation DCS (pCi/m³)
U-239	5.96E+03	1.61E+05
U-240	2.53E+02	6.84E+03
U-242	4.87E+03	1.32E+05
Np-232	3.00E+03	8.12E+04
Np-233	7.10E+04	1.92E+06
Np-234	3.07E+02	8.30E+03
Np-235	2.89E+02	7.81E+03
Np-236	3.46E-02	9.36E-01
Np-236m	2.75E+01	7.43E+02
Np-237	6.79E-03	1.84E-01
Np-238	6.98E+01	1.89E+03
Np-239	1.45E+02	3.91E+03
Np-240	1.95E+03	5.26E+04
Np-241	1.12E+04	3.02E+05
Pu-232	6.40E+00	1.73E+02
Pu-234	6.98E+00	1.89E+02
Pu-235	8.31E+04	2.25E+06
Pu-236	7.62E-03	2.06E-01
Pu-237	3.92E+02	1.06E+04
Pu-238	3.36E-03	9.08E-02
Pu-239	3.10E-03	8.38E-02
Pu-240	3.10E-03	8.38E-02
Pu-241	1.75E-01	4.72E+00
Pu-242	3.26E-03	8.82E-02
Pu-243	1.67E+03	4.50E+04
Pu-244	3.32E-03	8.99E-02
Pu-245	3.30E+02	8.91E+03
Pu-246	3.18E+01	8.60E+02
Am-237	5.43E+03	1.47E+05
Am-238	1.67E+03	4.53E+04
Am-239	5.96E+02	1.61E+04
Am-240	3.06E+02	8.28E+03
Am-241	3.71E-03	1.00E-01
Am-242	8.18E+00	2.21E+02
Am-242m	4.26E-03	1.15E-01
Am-243	3.76E-03	1.02E-01
Am-244	7.44E+01	2.01E+03
Am-244m	1.79E+03	4.83E+04

Nuclide	Inhalation DCS (Bq/m³)	Inhalation DCS (pCi/m³)
Am-245	2.55E+03	6.90E+04
Am-246	1.85E+03	5.01E+04
Am-246m	5.85E+03	1.58E+05
Am-247	5.17E+03	1.40E+05
Cm-238	8.01E+01	2.17E+03
Cm-239	2.06E+03	5.56E+04
Cm-240	4.56E-02	1.23E+00
Cm-241	3.91E+00	1.06E+02
Cm-242	2.73E-02	7.38E-01
Cm-243	4.84E-03	1.31E-01
Cm-244	5.72E-03	1.55E-01
Cm-246	3.66E-03	9.89E-02
CM-248	1.04E-03	2.82E-02
Bk-245	6.30E+01	1.70E+03
Bk-246	4.68E+02	1.26E+04
Bk-247	8.83E-04	2.39E-02
Bk-248m	5.56E+00	1.50E+02
Bk-249	3.55E-01	9.60E+00
Bk-250	6.71E+01	1.81E+03
Bk-251	3.07E+03	8.30E+04
Cf-244	1.04E+01	2.82E+02
Cf-246	3.18E-01	8.58E+00
Cf-247	3.38E+03	9.14E+04
Cf-248	1.60E-02	4.31E-01
Cf-249	2.14E-03	5.79E-02
Cf-250	4.33E-03	1.17E-01
Cf-251	2.11E-03	5.70E-02
Cf-252	6.94E-03	1.88E-01
Cf-253	1.07E-01	2.89E+00
Cf-254	3.34E-03	9.02E-02
Cf-255	2.50E+01	6.77E+02
Es-249	6.28E+02	1.70E+04
Es-250	2.54E+01	6.86E+02
Es-250m	9.83E+01	2.66E+03
Es-251	6.73E+01	1.82E+03
Es-253	4.56E-02	1.23E+00
Es-254	1.27E-02	3.43E-01
Es-254m	2.77E-01	7.49E+00

Nuclide	Inhalation DCS (Bq/m³)	Inhalation DCS (pCi/m³)
Es-255	3.16E-02	8.53E-01
Es-256	3.43E+00	9.28E+01
Fm-251	7.23E+01	1.96E+03
Fm-252	3.75E-01	1.01E+01
Fm-253	3.14E-01	8.48E+00
Fm-254	2.10E+00	5.68E+01
Fm-255	4.90E-01	1.32E+01
Fm-256	5.48E-01	1.48E+01
Fm-257	1.71E-02	4.62E-01

Table D-3 Air Immersion and Water Submersion DCS

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
Be-7	1.43E+04	3.88E-07	6.59E+06	5.65E+01
Be-10	2.28E+05	6.17E-06	2.05E+08	1.75E+03
C-10	4.01E+02	1.08E-08	1.85E+05	1.59E+00
C-11	6.95E+02	1.88E-08	3.20E+05	2.75E+00
C-14	1.22E+07	3.30E-04	1.10E+10	9.40E+04
N-13	6.94E+02	1.88E-08	3.20E+05	2.74E+00
N-16	1.22E+02	3.31E-09	5.63E+04	4.83E-01
O-14	1.95E+02	5.26E-09	9.01E+04	7.72E-01
O-15	6.89E+02	1.86E-08	3.19E+05	2.73E+00
O-19	6.89E+02	1.86E-08	3.23E+05	2.76E+00
F-17	6.89E+02	1.86E-08	3.19E+05	2.73E+00
F-18	7.19E+02	1.94E-08	3.31E+05	2.84E+00
Ne-19	6.85E+02	1.85E-08	3.18E+05	2.72E+00
Ne-24	1.28E+03	3.46E-08	5.95E+05	5.10E+00
Na-22	3.11E+02	8.40E-09	1.44E+05	1.24E+00
Na-24	1.52E+02	4.12E-09	7.03E+04	6.03E-01
Mg-27	7.62E+02	2.06E-08	3.53E+05	3.03E+00
Mg-28	4.97E+02	1.34E-08	2.30E+05	1.97E+00
Al-26	2.48E+02	6.70E-09	1.14E+05	9.78E-01
Al-28	3.57E+02	9.65E-09	1.66E+05	1.42E+00
Al-29	4.73E+02	1.28E-08	2.20E+05	1.89E+00
Si-31	6.57E+04	1.77E-06	5.16E+07	4.43E+02
Si-32	3.02E+06	8.16E-05	2.78E+09	2.38E+04
P-30	6.76E+02	1.83E-08	3.14E+05	2.69E+00
P-32	5.92E+04	1.60E-06	4.92E+07	4.21E+02
P-33	2.20E+06	5.95E-05	2.02E+09	1.73E+04
S-35	1.03E+07	2.79E-04	9.33E+09	7.99E+04
S-37	2.06E+02	5.57E-09	9.49E+04	8.14E-01
S-38	3.74E+02	1.01E-08	1.73E+05	1.49E+00
Cl-34	6.65E+02	1.80E-08	3.11E+05	2.66E+00
Cl-34m	3.08E+02	8.32E-09	1.42E+05	1.21E+00
Cl-36	1.91E+05	5.16E-06	1.63E+08	1.40E+03
Cl-38	4.31E+02	1.16E-08	2.01E+05	1.72E+00
Cl-39	4.55E+02	1.23E-08	2.11E+05	1.81E+00
Cl-40	1.52E+02	4.10E-09	7.00E+04	6.00E-01

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
Ar-37	5.18E+07	1.40E-03	N/A	N/A
Ar-39	2.76E+05	7.45E-06	2.48E+08	2.12E+03
Ar-41	5.16E+02	1.39E-08	2.38E+05	2.04E+00
Ar-42	2.52E+05	6.80E-06	2.25E+08	1.93E+03
Ar-43	4.20E+02	1.14E-08	1.96E+05	1.68E+00
Ar-44	3.35E+02	9.06E-09	1.55E+05	1.33E+00
K-38	2.03E+02	5.49E-09	9.44E+04	8.09E-01
K-40	3.99E+03	1.08E-07	1.89E+06	1.62E+01
K-42	2.13E+03	5.75E-08	1.02E+06	8.74E+00
K-43	7.32E+02	1.98E-08	3.38E+05	2.89E+00
K-44	2.66E+02	7.20E-09	1.23E+05	1.06E+00
K-45	3.50E+02	9.47E-09	1.63E+05	1.39E+00
K-46	2.16E+02	5.83E-09	1.00E+05	8.57E-01
Ca-45	2.09E+06	5.64E-05	1.91E+09	1.64E+04
Ca-47	6.32E+02	1.71E-08	2.94E+05	2.52E+00
Ca-49	1.90E+02	5.13E-09	8.78E+04	7.53E-01
Sc-42m	1.60E+02	4.33E-09	7.41E+04	6.35E-01
Sc-43	7.19E+02	1.94E-08	3.32E+05	2.85E+00
Sc-44	3.21E+02	8.68E-09	1.48E+05	1.27E+00
Sc-44m	2.60E+03	7.02E-08	1.19E+06	1.02E+01
Sc-46	3.38E+02	9.15E-09	1.56E+05	1.34E+00
Sc-47	6.75E+03	1.82E-07	3.08E+06	2.64E+01
Sc-48	2.01E+02	5.42E-09	9.27E+04	7.95E-01
Sc-49	4.45E+04	1.20E-06	3.45E+07	2.95E+02
Sc-50	2.06E+02	5.57E-09	9.55E+04	8.19E-01
Ti-44	6.50E+03	1.76E-07	2.88E+06	2.47E+01
Ti-45	8.13E+02	2.20E-08	3.75E+05	3.22E+00
Ti-51	1.85E+03	5.01E-08	8.66E+05	7.43E+00
Ti-52	5.51E+03	1.49E-07	2.60E+06	2.23E+01
V-47	7.05E+02	1.90E-08	3.26E+05	2.80E+00
V-48	2.33E+02	6.30E-09	1.07E+05	9.21E-01
V-50	4.62E+02	1.25E-08	2.13E+05	1.82E+00
V-52	4.50E+02	1.22E-08	2.09E+05	1.79E+00
V-53	6.43E+02	1.74E-08	2.99E+05	2.56E+00
Cr-48	1.69E+03	4.56E-08	7.70E+05	6.60E+00
Cr-49	6.78E+02	1.83E-08	3.11E+05	2.66E+00
Cr-51	2.26E+04	6.12E-07	1.04E+07	8.91E+01

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
Cr-55	3.17E+04	8.57E-07	2.44E+07	2.09E+02
Cr-56	9.14E+03	2.47E-07	4.31E+06	3.69E+01
Mn-50m	1.45E+02	3.93E-09	6.73E+04	5.77E-01
Mn-51	7.02E+02	1.90E-08	3.25E+05	2.78E+00
Mn-52m	2.81E+02	7.58E-09	1.29E+05	1.11E+00
Mn-52	1.96E+02	5.29E-09	9.03E+04	7.74E-01
Mn-54	8.28E+02	2.24E-08	3.82E+05	3.27E+00
Mn-56	3.88E+02	1.05E-08	1.80E+05	1.54E+00
Mn-57	5.98E+03	1.62E-07	2.96E+06	2.54E+01
Mn-58m	2.76E+02	7.45E-09	1.28E+05	1.10E+00
Fe-52	9.67E+02	2.61E-08	4.45E+05	3.81E+00
Fe-53	5.93E+02	1.60E-08	2.76E+05	2.36E+00
Fe-53m	2.20E+02	5.95E-09	1.02E+05	8.71E-01
Fe-55	4.74E+12	1.28E+02	2.13E+15	1.82E+10
Fe-59	5.64E+02	1.52E-08	2.60E+05	2.23E+00
Fe-60	4.58E+06	1.24E-04	4.18E+09	3.58E+04
Fe-61	4.75E+02	1.28E-08	2.20E+05	1.89E+00
Fe-62	1.37E+03	3.69E-08	6.37E+05	5.46E+00
Co-54m	1.71E+02	4.63E-09	7.95E+04	6.81E-01
Co-55	3.45E+02	9.34E-09	1.59E+05	1.37E+00
Co-56	1.80E+02	4.87E-09	8.30E+04	7.11E-01
Co-57	6.37E+03	1.72E-07	2.86E+06	2.45E+01
Co-58	7.14E+02	1.93E-08	3.29E+05	2.82E+00
Co-58m	5.21E+08	1.41E-02	2.22E+11	1.90E+06
Co-60	2.66E+02	7.20E-09	1.23E+05	1.05E+00
Co-60m	1.63E+05	4.42E-06	7.50E+07	6.42E+02
Co-61	7.81E+03	2.11E-07	3.66E+06	3.13E+01
Co-62	4.00E+02	1.08E-08	1.87E+05	1.60E+00
Co-62m	2.44E+02	6.59E-09	1.13E+05	9.67E-01
Ni-56	4.05E+02	1.10E-08	1.87E+05	1.60E+00
Ni-57	3.45E+02	9.33E-09	1.59E+05	1.37E+00
Ni-59	4.58E+07	1.24E-03	2.11E+10	1.81E+05
Ni-65	1.17E+03	3.15E-08	5.44E+05	4.66E+00
Ni-66	2.33E+06	6.30E-05	2.14E+09	1.84E+04
Cu-57	5.61E+02	1.52E-08	2.66E+05	2.28E+00
Cu-59	4.75E+02	1.28E-08	2.20E+05	1.89E+00
Cu-60	1.69E+02	4.56E-09	7.81E+04	6.69E-01

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
Cu-61	8.57E+02	2.32E-08	3.95E+05	3.39E+00
Cu-62	6.89E+02	1.86E-08	3.20E+05	2.75E+00
Cu-64	3.83E+03	1.03E-07	1.76E+06	1.51E+01
Cu-66	5.77E+03	1.56E-07	2.86E+06	2.45E+01
Cu-67	6.46E+03	1.75E-07	2.94E+06	2.52E+01
Cu-69	1.25E+03	3.39E-08	5.86E+05	5.02E+00
Zn-60	4.59E+02	1.24E-08	2.13E+05	1.82E+00
Zn-61	4.39E+02	1.19E-08	2.05E+05	1.75E+00
Zn-62	1.63E+03	4.42E-08	7.53E+05	6.46E+00
Zn-63	6.35E+02	1.72E-08	2.94E+05	2.52E+00
Zn-65	1.17E+03	3.15E-08	5.39E+05	4.62E+00
Zn-69m	1.72E+03	4.66E-08	7.91E+05	6.78E+00
Zn-69	1.59E+05	4.29E-06	1.39E+08	1.19E+03
Zn-71m	4.50E+02	1.22E-08	2.07E+05	1.78E+00
Zn-71	2.09E+03	5.64E-08	9.85E+05	8.44E+00
Zn-72	5.13E+03	1.39E-07	2.31E+06	1.98E+01
Ga-64	1.93E+02	5.23E-09	8.93E+04	7.66E-01
Ga-65	6.06E+02	1.64E-08	2.81E+05	2.40E+00
Ga-66	2.56E+02	6.91E-09	1.18E+05	1.01E+00
Ga-67	4.83E+03	1.30E-07	2.19E+06	1.87E+01
Ga-68	7.39E+02	2.00E-08	3.42E+05	2.93E+00
Ga-70	3.83E+04	1.04E-06	2.40E+07	2.06E+02
Ga-72	2.42E+02	6.54E-09	1.12E+05	9.60E-01
Ga-73	2.03E+03	5.49E-08	9.41E+05	8.06E+00
Ga-74	2.05E+02	5.53E-09	9.47E+04	8.11E-01
Ge-66	1.07E+03	2.89E-08	4.91E+05	4.21E+00
Ge-67	4.85E+02	1.31E-08	2.25E+05	1.93E+00
Ge-68	3.57E+08	9.66E-03	1.55E+11	1.33E+06
Ge-69	7.24E+02	1.96E-08	3.34E+05	2.86E+00
Ge-71	3.52E+08	9.52E-03	1.52E+11	1.31E+06
Ge-75	1.73E+04	4.68E-07	8.55E+06	7.33E+01
Ge-77	6.41E+02	1.73E-08	2.96E+05	2.54E+00
Ge-78	2.58E+03	6.97E-08	1.18E+06	1.01E+01
As-68	1.80E+02	4.87E-09	8.34E+04	7.15E-01
As-69	6.04E+02	1.63E-08	2.81E+05	2.40E+00
As-70	1.59E+02	4.29E-09	7.34E+04	6.29E-01
As-71	1.24E+03	3.36E-08	5.70E+05	4.89E+00

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
As-72	3.86E+02	1.04E-08	1.79E+05	1.54E+00
As-73	2.06E+05	5.57E-06	8.93E+07	7.66E+02
As-74	9.33E+02	2.52E-08	4.30E+05	3.68E+00
As-76	1.59E+03	4.29E-08	7.46E+05	6.39E+00
As-77	6.52E+04	1.76E-06	3.40E+07	2.91E+02
As-78	5.06E+02	1.37E-08	2.35E+05	2.01E+00
As-79	1.41E+04	3.81E-07	7.55E+06	6.47E+01
Se-70	1.01E+03	2.73E-08	4.64E+05	3.98E+00
Se-71	4.29E+02	1.16E-08	1.98E+05	1.70E+00
Se-72	5.20E+04	1.40E-06	2.25E+07	1.93E+02
Se-73	6.59E+02	1.78E-08	3.02E+05	2.59E+00
Se-73m	2.69E+03	7.26E-08	1.24E+06	1.07E+01
Se-75	1.91E+03	5.16E-08	8.71E+05	7.47E+00
Se-77m	8.57E+03	2.32E-07	3.90E+06	3.34E+01
Se-79	1.04E+07	2.81E-04	9.38E+09	8.04E+04
Se-79m	8.81E+04	2.38E-06	3.96E+07	3.39E+02
Se-81	3.89E+04	1.05E-06	2.38E+07	2.04E+02
Se-81m	5.72E+04	1.55E-06	2.58E+07	2.21E+02
Se-83	2.56E+02	6.91E-09	1.18E+05	1.01E+00
Se-83m	6.63E+02	1.79E-08	3.11E+05	2.66E+00
Se-84	1.67E+03	4.51E-08	7.75E+05	6.64E+00
Br-72	2.25E+02	6.08E-09	1.05E+05	8.97E-01
Br-73	4.86E+02	1.31E-08	2.25E+05	1.93E+00
Br-74	1.38E+02	3.73E-09	6.37E+04	5.46E-01
Br-74m	1.59E+02	4.29E-09	7.32E+04	6.28E-01
Br-75	5.92E+02	1.60E-08	2.73E+05	2.34E+00
Br-76	2.37E+02	6.40E-09	1.09E+05	9.34E-01
Br-76m	3.28E+04	8.87E-07	1.45E+07	1.24E+02
Br-77	2.26E+03	6.12E-08	1.04E+06	8.91E+00
Br-77m	5.32E+04	1.44E-06	2.40E+07	2.06E+02
Br-78	6.76E+02	1.83E-08	3.14E+05	2.69E+00
Br-80	7.97E+03	2.15E-07	3.92E+06	3.36E+01
Br-80m	1.33E+05	3.60E-06	5.70E+07	4.89E+02
Br-82	2.60E+02	7.02E-09	1.20E+05	1.03E+00
Br-82m	1.99E+05	5.39E-06	9.94E+07	8.52E+02
Br-83	6.22E+04	1.68E-06	3.53E+07	3.03E+02
Br-84	3.57E+02	9.65E-09	1.65E+05	1.42E+00

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
Br-84m	2.42E+02	6.54E-09	1.12E+05	9.60E-01
Br-85	7.97E+03	2.15E-07	4.06E+06	3.48E+01
Kr-74	6.75E+02	1.82E-08	3.11E+05	2.66E+00
Kr-75	5.42E+02	1.46E-08	2.52E+05	2.16E+00
Kr-76	1.73E+03	4.68E-08	7.93E+05	6.79E+00
Kr-77	6.85E+02	1.85E-08	3.17E+05	2.72E+00
Kr-79	2.86E+03	7.72E-08	1.31E+06	1.12E+01
Kr-81	8.30E+05	2.24E-05	3.78E+08	3.24E+03
Kr-81m	5.69E+03	1.54E-07	2.60E+06	2.23E+01
Kr-83m	2.88E+07	7.79E-04	1.23E+10	1.06E+05
Kr-85	1.32E+05	3.56E-06	8.46E+07	7.25E+02
Kr-85m	4.63E+03	1.25E-07	2.13E+06	1.82E+01
Kr-87	7.99E+02	2.16E-08	3.73E+05	3.19E+00
Kr-88	3.27E+02	8.83E-09	1.51E+05	1.29E+00
Kr-89	3.32E+02	8.96E-09	1.54E+05	1.32E+00
Rb-77	4.47E+02	1.21E-08	2.07E+05	1.78E+00
Rb-78	1.55E+02	4.20E-09	7.19E+04	6.16E-01
Rb-78m	2.09E+02	5.64E-09	9.67E+04	8.29E-01
Rb-79	4.86E+02	1.31E-08	2.25E+05	1.93E+00
Rb-80	5.72E+02	1.55E-08	2.66E+05	2.28E+00
Rb-81	1.41E+03	3.81E-08	6.48E+05	5.56E+00
Rb-81m	2.96E+04	8.01E-07	1.36E+07	1.17E+02
Rb-82	6.23E+02	1.68E-08	2.91E+05	2.49E+00
Rb-82m	2.37E+02	6.40E-09	1.09E+05	9.34E-01
Rb-83	1.47E+03	3.97E-08	6.76E+05	5.79E+00
Rb-84	7.68E+02	2.08E-08	3.54E+05	3.04E+00
Rb-84m	1.89E+03	5.10E-08	8.66E+05	7.43E+00
Rb-86	6.50E+03	1.76E-07	3.14E+06	2.69E+01
Rb-86m	1.30E+03	3.51E-08	5.98E+05	5.13E+00
Rb-87	8.88E+05	2.40E-05	8.13E+08	6.97E+03
Rb-88	9.41E+02	2.54E-08	4.45E+05	3.82E+00
Rb-89	2.91E+02	7.86E-09	1.34E+05	1.15E+00
Rb-90	2.94E+02	7.94E-09	1.36E+05	1.17E+00
Rb-90m	1.95E+02	5.26E-09	9.03E+04	7.74E-01
Sr-79	5.88E+02	1.59E-08	2.73E+05	2.34E+00
Sr-80	1.65E+03	4.46E-08	7.60E+05	6.52E+00
Sr-81	5.07E+02	1.37E-08	2.35E+05	2.01E+00

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
Sr-82	6.70E+06	1.81E-04	2.88E+09	2.47E+04
Sr-83	8.57E+02	2.32E-08	3.95E+05	3.39E+00
Sr-85	1.45E+03	3.91E-08	6.65E+05	5.70E+00
Sr-85m	3.37E+03	9.10E-08	1.53E+06	1.31E+01
Sr-87m	2.25E+03	6.08E-08	1.03E+06	8.85E+00
Sr-89	7.22E+04	1.95E-06	6.03E+07	5.17E+02
Sr-90	3.23E+05	8.72E-06	2.91E+08	2.49E+03
Sr-91	9.55E+02	2.58E-08	4.44E+05	3.81E+00
Sr-92	4.95E+02	1.34E-08	2.28E+05	1.96E+00
Sr-93	2.96E+02	8.01E-09	1.37E+05	1.18E+00
Sr-94	4.58E+02	1.24E-08	2.13E+05	1.82E+00
Y-81	5.93E+02	1.60E-08	2.76E+05	2.36E+00
Y-83	5.15E+02	1.39E-08	2.38E+05	2.04E+00
Y-83m	8.41E+02	2.27E-08	3.89E+05	3.33E+00
Y-84m	1.72E+02	4.66E-09	7.97E+04	6.83E-01
Y-85	6.54E+02	1.77E-08	3.02E+05	2.59E+00
Y-85m	5.13E+02	1.39E-08	2.37E+05	2.03E+00
Y-86	1.89E+02	5.10E-09	8.71E+04	7.47E-01
Y-86m	3.30E+03	8.93E-08	1.51E+06	1.29E+01
Y-87	1.63E+03	4.42E-08	7.50E+05	6.42E+00
Y-87m	2.35E+03	6.35E-08	1.08E+06	9.24E+00
Y-88	2.44E+02	6.59E-09	1.12E+05	9.64E-01
Y-89m	7.62E+02	2.06E-08	3.52E+05	3.01E+00
Y-90	4.01E+04	1.08E-06	3.22E+07	2.76E+02
Y-90m	1.13E+03	3.06E-08	5.20E+05	4.46E+00
Y-91	5.28E+04	1.43E-06	3.68E+07	3.16E+02
Y-91m	1.34E+03	3.63E-08	6.18E+05	5.30E+00
Y-92	2.40E+03	6.49E-08	1.16E+06	9.92E+00
Y-93	5.63E+03	1.52E-07	2.81E+06	2.40E+01
Y-94	8.30E+02	2.24E-08	3.91E+05	3.35E+00
Y-95	5.55E+02	1.50E-08	2.58E+05	2.21E+00
Zr-85	4.70E+02	1.27E-08	2.19E+05	1.87E+00
Zr-86	2.64E+03	7.14E-08	1.21E+06	1.03E+01
Zr-87	7.51E+02	2.03E-08	3.48E+05	2.99E+00
Zr-88	1.88E+03	5.07E-08	8.62E+05	7.38E+00
Zr-89	5.99E+02	1.62E-08	2.76E+05	2.36E+00
Zr-89m	1.10E+03	2.98E-08	5.08E+05	4.36E+00

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
Zr-93	4.92E+10	1.33E+00	4.70E+13	4.03E+08
Zr-95	9.52E+02	2.57E-08	4.39E+05	3.76E+00
Zr-97	7.79E+02	2.11E-08	3.61E+05	3.09E+00
Nb-87	5.72E+02	1.55E-08	2.66E+05	2.28E+00
Nb-88	1.63E+02	4.42E-09	7.55E+04	6.47E-01
Nb-88m	1.66E+02	4.49E-09	7.68E+04	6.58E-01
Nb-89	4.87E+02	1.32E-08	2.26E+05	1.94E+00
Nb-89m	5.39E+02	1.46E-08	2.50E+05	2.14E+00
Nb-90	1.55E+02	4.18E-09	7.14E+04	6.12E-01
Nb-91	3.75E+05	1.01E-05	1.70E+08	1.46E+03
Nb-91m	2.64E+04	7.14E-07	1.22E+07	1.05E+02
Nb-92	4.64E+02	1.25E-08	2.14E+05	1.84E+00
Nb-92m	7.14E+02	1.93E-08	3.29E+05	2.82E+00
Nb-93m	1.04E+07	2.82E-04	4.45E+09	3.81E+04
Nb-94	4.45E+02	1.20E-08	2.05E+05	1.75E+00
Nb-94m	1.47E+05	3.99E-06	6.79E+07	5.82E+02
Nb-95	9.09E+02	2.46E-08	4.19E+05	3.59E+00
Nb-95m	1.12E+04	3.03E-07	5.20E+06	4.46E+01
Nb-96	2.81E+02	7.58E-09	1.29E+05	1.11E+00
Nb-97	1.04E+03	2.82E-08	4.83E+05	4.14E+00
Nb-98m	2.40E+02	6.49E-09	1.11E+05	9.50E-01
Nb-99	3.81E+03	1.03E-07	1.84E+06	1.58E+01
Nb-99m	8.21E+02	2.22E-08	3.84E+05	3.29E+00
Mo-89	5.56E+02	1.50E-08	2.60E+05	2.23E+00
Mo-90	8.66E+02	2.34E-08	3.97E+05	3.41E+00
Mo-91	7.05E+02	1.90E-08	3.28E+05	2.81E+00
Mo-91m	4.92E+02	1.33E-08	2.26E+05	1.94E+00
Mo-93	1.87E+06	5.04E-05	7.95E+08	6.81E+03
Mo-93m	2.91E+02	7.86E-09	1.34E+05	1.15E+00
Mo-99	4.58E+03	1.24E-07	2.14E+06	1.84E+01
Mo-101	4.55E+02	1.23E-08	2.10E+05	1.80E+00
Mo-102	3.11E+04	8.40E-07	1.58E+07	1.35E+02
Tc-91	2.64E+02	7.14E-09	1.22E+05	1.05E+00
Tc-91m	4.80E+02	1.30E-08	2.23E+05	1.91E+00
Tc-92	1.77E+02	4.79E-09	8.17E+04	7.00E-01
Tc-93	4.25E+02	1.15E-08	1.96E+05	1.68E+00
Tc-93m	6.80E+02	1.84E-08	3.14E+05	2.69E+00

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
Tc-94	2.62E+02	7.08E-09	1.21E+05	1.03E+00
Tc-94m	3.48E+02	9.41E-09	1.61E+05	1.38E+00
Tc-95	8.83E+02	2.39E-08	4.08E+05	3.49E+00
Tc-95m	1.04E+03	2.80E-08	4.78E+05	4.09E+00
Tc-96	2.78E+02	7.52E-09	1.28E+05	1.10E+00
Tc-96m	1.63E+04	4.42E-07	7.53E+06	6.46E+01
Tc-97	1.43E+06	3.88E-05	6.10E+08	5.23E+03
Tc-97m	8.62E+05	2.33E-05	3.91E+08	3.36E+03
Tc-98	4.95E+02	1.34E-08	2.28E+05	1.96E+00
Tc-99	1.10E+06	2.98E-05	1.01E+09	8.65E+03
Tc-99m	6.02E+03	1.63E-07	2.71E+06	2.32E+01
Tc-101	2.09E+03	5.64E-08	9.67E+05	8.29E+00
Tc-102	5.42E+03	1.46E-07	2.88E+06	2.47E+01
Tc-102m	2.69E+02	7.26E-09	1.24E+05	1.06E+00
Tc-104	2.88E+02	7.79E-09	1.34E+05	1.15E+00
Tc-105	8.41E+02	2.27E-08	3.91E+05	3.36E+00
Ru-92	3.36E+02	9.08E-09	1.55E+05	1.33E+00
Ru-94	1.39E+03	3.76E-08	6.39E+05	5.48E+00
Ru-95	5.58E+02	1.51E-08	2.58E+05	2.21E+00
Ru-97	3.18E+03	8.60E-08	1.45E+06	1.25E+01
Ru-103	1.43E+03	3.88E-08	6.61E+05	5.66E+00
Ru-105	9.35E+02	2.53E-08	4.32E+05	3.70E+00
Ru-107	1.88E+03	5.07E-08	8.88E+05	7.61E+00
Ru-108	1.09E+04	2.94E-07	5.20E+06	4.46E+01
Rh-94	1.75E+02	4.73E-09	8.15E+04	6.99E-01
Rh-95	2.62E+02	7.08E-09	1.21E+05	1.04E+00
Rh-95m	7.39E+02	2.00E-08	3.41E+05	2.92E+00
Rh-96	1.75E+02	4.73E-09	8.07E+04	6.92E-01
Rh-96m	5.26E+02	1.42E-08	2.44E+05	2.09E+00
Rh-97	4.80E+02	1.30E-08	2.22E+05	1.90E+00
Rh-97m	2.99E+02	8.09E-09	1.37E+05	1.18E+00
Rh-98	3.80E+02	1.03E-08	1.76E+05	1.51E+00
Rh-99	1.31E+03	3.54E-08	6.01E+05	5.15E+00
Rh-99m	1.10E+03	2.97E-08	5.05E+05	4.33E+00
Rh-100	2.40E+02	6.49E-09	1.11E+05	9.54E-01
Rh-100m	1.56E+04	4.22E-07	7.16E+06	6.13E+01
Rh-101	2.71E+03	7.32E-08	1.23E+06	1.05E+01

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
Rh-101m	2.62E+03	7.08E-08	1.20E+06	1.03E+01
Rh-102	1.42E+03	3.83E-08	6.52E+05	5.59E+00
Rh-102m	3.26E+02	8.80E-09	1.50E+05	1.29E+00
Rh-103m	5.65E+06	1.53E-04	2.40E+09	2.06E+04
Rh-104	2.26E+04	6.12E-07	1.40E+07	1.20E+02
Rh-104m	3.47E+04	9.38E-07	1.52E+07	1.30E+02
Rh-105	9.14E+03	2.47E-07	4.23E+06	3.63E+01
Rh-106	2.96E+03	8.01E-08	1.44E+06	1.24E+01
Rh-106m	2.40E+02	6.49E-09	1.11E+05	9.50E-01
Rh-107	2.25E+03	6.08E-08	1.04E+06	8.91E+00
Rh-108	1.97E+03	5.32E-08	9.49E+05	8.14E+00
Rh-109	2.30E+03	6.21E-08	1.07E+06	9.21E+00
Pd-96	4.87E+02	1.32E-08	2.25E+05	1.93E+00
Pd-97	2.83E+02	7.65E-09	1.30E+05	1.12E+00
Pd-98	1.80E+03	4.87E-08	8.24E+05	7.06E+00
Pd-99	5.39E+02	1.46E-08	2.48E+05	2.12E+00
Pd-100	8.71E+03	2.35E-07	3.87E+06	3.32E+01
Pd-101	2.14E+03	5.79E-08	9.85E+05	8.44E+00
Pd-103	5.99E+05	1.62E-05	2.56E+08	2.19E+03
Pd-109	7.55E+04	2.04E-06	4.61E+07	3.95E+02
Pd-109m	6.91E+03	1.87E-07	3.14E+06	2.69E+01
Pd-111	1.10E+04	2.97E-07	5.64E+06	4.84E+01
Pd-112	1.18E+06	3.20E-05	7.32E+08	6.28E+03
Pd-114	2.13E+04	5.75E-07	1.10E+07	9.40E+01
Ag-99	2.94E+02	7.94E-09	1.36E+05	1.17E+00
Ag-100m	2.38E+02	6.44E-09	1.10E+05	9.47E-01
Ag-101	4.41E+02	1.19E-08	2.03E+05	1.74E+00
Ag-102	1.98E+02	5.36E-09	9.14E+04	7.83E-01
Ag-102m	3.26E+02	8.82E-09	1.51E+05	1.29E+00
Ag-103	8.37E+02	2.26E-08	3.85E+05	3.30E+00
Ag-104	2.56E+02	6.91E-09	1.17E+05	1.01E+00
Ag-104m	3.75E+02	1.01E-08	1.73E+05	1.49E+00
Ag-105	1.43E+03	3.88E-08	6.59E+05	5.65E+00
Ag-105m	7.17E+05	1.94E-05	3.29E+08	2.82E+03
Ag-106	1.01E+03	2.74E-08	4.68E+05	4.01E+00
Ag-106m	2.46E+02	6.64E-09	1.14E+05	9.74E-01
Ag-108	2.50E+04	6.75E-07	1.37E+07	1.17E+02

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
Ag-108m	4.39E+02	1.19E-08	2.02E+05	1.73E+00
Ag-109m	2.01E+05	5.42E-06	8.91E+07	7.63E+02
Ag-110	1.29E+04	3.48E-07	7.24E+06	6.20E+01
Ag-110m	2.48E+02	6.70E-09	1.14E+05	9.81E-01
Ag-111	2.28E+04	6.17E-07	1.13E+07	9.71E+01
Ag-111m	1.89E+05	5.10E-06	8.55E+07	7.33E+02
Ag-112	9.35E+02	2.53E-08	4.38E+05	3.75E+00
Ag-113	8.28E+03	2.24E-07	4.09E+06	3.51E+01
Ag-113m	3.32E+03	8.97E-08	1.53E+06	1.31E+01
Ag-114	2.17E+03	5.87E-08	1.07E+06	9.15E+00
Ag-115	1.32E+03	3.57E-08	6.19E+05	5.31E+00
Ag-116	2.96E+02	8.01E-09	1.38E+05	1.19E+00
Ag-117	4.88E+02	1.32E-08	2.26E+05	1.94E+00
Cd-101	2.71E+02	7.32E-09	1.25E+05	1.07E+00
Cd-102	8.50E+02	2.30E-08	3.91E+05	3.36E+00
Cd-103	3.17E+02	8.57E-09	1.46E+05	1.25E+00
Cd-104	3.14E+03	8.49E-08	1.43E+06	1.23E+01
Cd-105	5.17E+02	1.40E-08	2.38E+05	2.04E+00
Cd-107	6.47E+04	1.75E-06	2.91E+07	2.49E+02
Cd-109	1.40E+05	3.78E-06	6.10E+07	5.23E+02
Cd-111m	2.64E+03	7.14E-08	1.20E+06	1.03E+01
Cd-113	1.27E+06	3.44E-05	1.17E+09	9.99E+03
Cd-113m	3.42E+05	9.24E-06	2.99E+08	2.56E+03
Cd-115	3.63E+03	9.82E-08	1.69E+06	1.45E+01
Cd-115m	1.59E+04	4.31E-07	8.19E+06	7.02E+01
Cd-117	6.21E+02	1.68E-08	2.88E+05	2.47E+00
Cd-117m	3.21E+02	8.67E-09	1.48E+05	1.27E+00
Cd-118	4.37E+05	1.18E-05	3.95E+08	3.39E+03
Cd-119	3.98E+02	1.08E-08	1.84E+05	1.58E+00
Cd-119m	2.86E+02	7.72E-09	1.32E+05	1.13E+00
In-103	2.44E+02	6.59E-09	1.12E+05	9.64E-01
In-105	3.54E+02	9.55E-09	1.63E+05	1.40E+00
In-106m	2.35E+02	6.35E-09	1.09E+05	9.31E-01
In-106	1.95E+02	5.26E-09	8.98E+04	7.70E-01
In-107	4.42E+02	1.19E-08	2.03E+05	1.74E+00
In-108m	2.35E+02	6.35E-09	1.09E+05	9.31E-01
In-108	1.75E+02	4.73E-09	8.07E+04	6.92E-01

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
In-109m	1.16E+03	3.13E-08	5.33E+05	4.57E+00
In-109	1.11E+03	3.00E-08	5.09E+05	4.36E+00
In-110m	4.37E+02	1.18E-08	2.02E+05	1.73E+00
In-110	2.25E+02	6.08E-09	1.04E+05	8.88E-01
In-111m	1.51E+03	4.08E-08	6.97E+05	5.97E+00
In-111	1.88E+03	5.07E-08	8.57E+05	7.34E+00
In-112m	3.22E+04	8.69E-07	1.47E+07	1.26E+02
In-112	2.66E+03	7.20E-08	1.24E+06	1.06E+01
In-113m	2.81E+03	7.58E-08	1.29E+06	1.10E+01
In-114m	9.73E+03	2.63E-07	4.49E+06	3.84E+01
In-114	4.36E+04	1.18E-06	3.21E+07	2.75E+02
In-115m	4.57E+03	1.23E-07	2.11E+06	1.81E+01
In-115	4.80E+05	1.30E-05	4.35E+08	3.73E+03
In-116m	2.69E+02	7.26E-09	1.24E+05	1.07E+00
In-117m	7.77E+03	2.10E-07	3.67E+06	3.15E+01
In-117	1.03E+03	2.78E-08	4.74E+05	4.06E+00
In-118m	2.42E+02	6.54E-09	1.12E+05	9.60E-01
In-118	5.54E+03	1.50E-07	2.94E+06	2.52E+01
In-119m	8.15E+03	2.20E-07	4.16E+06	3.56E+01
In-119	8.96E+02	2.42E-08	4.16E+05	3.56E+00
In-121m	8.09E+03	2.19E-07	4.35E+06	3.73E+01
In-121	7.27E+02	1.97E-08	3.38E+05	2.90E+00
Sn-106	5.87E+02	1.59E-08	2.71E+05	2.32E+00
Sn-108	1.07E+03	2.90E-08	4.92E+05	4.21E+00
Sn-109	3.02E+02	8.16E-09	1.39E+05	1.19E+00
Sn-110	2.62E+03	7.08E-08	1.20E+06	1.03E+01
Sn-111	1.43E+03	3.88E-08	6.62E+05	5.67E+00
Sn-113m	3.11E+05	8.40E-06	1.33E+08	1.14E+03
Sn-113	9.19E+04	2.48E-06	4.10E+07	3.52E+02
Sn-117m	5.17E+03	1.40E-07	2.35E+06	2.01E+01
Sn-119m	3.44E+05	9.29E-06	1.46E+08	1.25E+03
Sn-121m	5.97E+05	1.61E-05	2.83E+08	2.43E+03
Sn-121	7.97E+05	2.15E-05	7.27E+08	6.23E+03
Sn-123m	5.11E+03	1.38E-07	2.37E+06	2.03E+01
Sn-123	4.52E+04	1.22E-06	2.76E+07	2.36E+02
Sn-125m	1.98E+03	5.36E-08	9.27E+05	7.95E+00
Sn-125	1.93E+03	5.23E-08	9.09E+05	7.79E+00

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
Sn-126	1.74E+04	4.71E-07	7.75E+06	6.64E+01
Sn-127m	1.19E+03	3.21E-08	5.54E+05	4.75E+00
Sn-127	3.52E+02	9.50E-09	1.63E+05	1.39E+00
Sn-128	1.26E+03	3.40E-08	5.78E+05	4.95E+00
Sn-129	6.66E+02	1.80E-08	3.11E+05	2.66E+00
Sn-130m	7.55E+02	2.04E-08	3.53E+05	3.02E+00
Sn-130	7.62E+02	2.06E-08	3.51E+05	3.01E+00
Sb-111	4.69E+02	1.27E-08	2.17E+05	1.86E+00
Sb-113	5.55E+02	1.50E-08	2.56E+05	2.19E+00
Sb-114	2.50E+02	6.75E-09	1.16E+05	9.92E-01
Sb-115	8.05E+02	2.18E-08	3.71E+05	3.18E+00
Sb-116	2.94E+02	7.94E-09	1.36E+05	1.17E+00
Sb-116m	2.22E+02	5.99E-09	1.02E+05	8.74E-01
Sb-117	4.39E+03	1.19E-07	1.99E+06	1.71E+01
Sb-118	8.69E+02	2.35E-08	4.03E+05	3.46E+00
Sb-118m	2.62E+02	7.08E-09	1.21E+05	1.04E+00
Sb-119	2.10E+05	5.68E-06	8.93E+07	7.66E+02
Sb-120	1.59E+03	4.29E-08	7.34E+05	6.29E+00
Sb-120m	2.81E+02	7.58E-09	1.29E+05	1.10E+00
Sb-122	1.55E+03	4.20E-08	7.22E+05	6.19E+00
Sb-122m	1.79E+04	4.84E-07	7.85E+06	6.73E+01
Sb-124	3.60E+02	9.74E-09	1.67E+05	1.43E+00
Sb-124m	1.60E+03	4.33E-08	7.37E+05	6.32E+00
Sb-124n	5.63E+09	1.52E-01	2.40E+12	2.06E+07
Sb-125	1.67E+03	4.51E-08	7.70E+05	6.60E+00
Sb-126	2.54E+02	6.86E-09	1.17E+05	1.00E+00
Sb-126m	4.52E+02	1.22E-08	2.09E+05	1.79E+00
Sb-127	1.01E+03	2.73E-08	4.66E+05	4.00E+00
Sb-128	2.25E+02	6.08E-09	1.04E+05	8.91E-01
Sb-128m	3.63E+02	9.82E-09	1.68E+05	1.44E+00
Sb-129	4.64E+02	1.25E-08	2.14E+05	1.84E+00
Sb-130	2.10E+02	5.68E-09	9.73E+04	8.34E-01
Sb-130m	2.52E+02	6.80E-09	1.17E+05	9.99E-01
Sb-131	3.22E+02	8.70E-09	1.49E+05	1.28E+00
Sb-133	2.38E+02	6.44E-09	1.10E+05	9.47E-01
Te-113	3.02E+02	8.16E-09	1.40E+05	1.20E+00
Te-114	5.36E+02	1.45E-08	2.48E+05	2.12E+00

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
Te-115	3.02E+02	8.16E-09	1.40E+05	1.20E+00
Te-115m	2.60E+02	7.02E-09	1.20E+05	1.03E+00
Te-116	8.66E+03	2.34E-07	3.92E+06	3.36E+01
Te-117	4.37E+02	1.18E-08	2.02E+05	1.73E+00
Te-118	2.10E+05	5.68E-06	8.91E+07	7.63E+02
Te-119	9.24E+02	2.50E-08	4.26E+05	3.65E+00
Te-119m	4.55E+02	1.23E-08	2.10E+05	1.80E+00
Te-121	1.26E+03	3.41E-08	5.82E+05	4.99E+00
Te-121m	3.52E+03	9.50E-08	1.60E+06	1.37E+01
Te-123	1.21E+08	3.26E-03	5.12E+10	4.39E+05
Te-123m	5.46E+03	1.48E-07	2.48E+06	2.12E+01
Te-125m	9.44E+04	2.55E-06	4.08E+07	3.49E+02
Te-127	9.47E+04	2.56E-06	5.27E+07	4.51E+02
Te-127m	2.83E+05	7.65E-06	1.24E+08	1.07E+03
Te-129	1.06E+04	2.87E-07	5.17E+06	4.43E+01
Te-129m	2.02E+04	5.46E-07	9.73E+06	8.34E+01
Te-131	1.65E+03	4.46E-08	7.66E+05	6.56E+00
Te-131m	4.74E+02	1.28E-08	2.19E+05	1.87E+00
Te-132	3.39E+03	9.17E-08	1.55E+06	1.33E+01
Te-133	5.59E+02	1.51E-08	2.58E+05	2.21E+00
Te-133m	3.67E+02	9.92E-09	1.70E+05	1.45E+00
Te-134	8.19E+02	2.21E-08	3.77E+05	3.23E+00
I-118	3.38E+02	9.14E-09	1.57E+05	1.35E+00
I-118m	1.85E+02	5.01E-09	8.55E+04	7.33E-01
I-119	7.81E+02	2.11E-08	3.61E+05	3.09E+00
I-120	2.48E+02	6.70E-09	1.15E+05	9.85E-01
I-120m	1.95E+02	5.26E-09	8.98E+04	7.70E-01
I-121	1.88E+03	5.07E-08	8.57E+05	7.34E+00
I-122	7.22E+02	1.95E-08	3.36E+05	2.88E+00
I-123	4.84E+03	1.31E-07	2.19E+06	1.87E+01
I-124	6.21E+02	1.68E-08	2.86E+05	2.45E+00
I-125	8.39E+04	2.27E-06	3.57E+07	3.06E+02
I-126	1.65E+03	4.46E-08	7.60E+05	6.52E+00
I-128	8.93E+03	2.41E-07	4.43E+06	3.80E+01
I-129	1.11E+05	3.00E-06	4.75E+07	4.07E+02
I-130	3.28E+02	8.85E-09	1.51E+05	1.29E+00
I-130m	6.50E+03	1.76E-07	3.02E+06	2.59E+01

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
I-131	1.87E+03	5.04E-08	8.59E+05	7.36E+00
I-132	3.05E+02	8.24E-09	1.40E+05	1.20E+00
I-132m	2.11E+03	5.71E-08	9.73E+05	8.34E+00
I-133	1.14E+03	3.08E-08	5.27E+05	4.51E+00
I-134	2.62E+02	7.08E-09	1.21E+05	1.04E+00
I-134m	2.66E+03	7.20E-08	1.22E+06	1.05E+01
I-135	4.19E+02	1.13E-08	1.93E+05	1.66E+00
Xe-120	1.92E+03	5.19E-08	8.81E+05	7.55E+00
Xe-121	4.56E+02	1.23E-08	2.11E+05	1.81E+00
Xe-122	1.45E+04	3.91E-07	6.59E+06	5.65E+01
Xe-123	1.11E+03	3.01E-08	5.11E+05	4.38E+00
Xe-125	2.94E+03	7.94E-08	1.34E+06	1.15E+01
Xe-127	2.81E+03	7.58E-08	1.28E+06	1.10E+01
Xe-127m	4.83E+03	1.30E-07	2.19E+06	1.87E+01
Xe-129m	3.45E+04	9.34E-07	1.58E+07	1.35E+02
Xe-131m	8.88E+04	2.40E-06	4.15E+07	3.56E+02
Xe-133	2.31E+04	6.26E-07	1.04E+07	8.88E+01
Xe-133m	2.46E+04	6.64E-07	1.15E+07	9.88E+01
Xe-135	2.88E+03	7.79E-08	1.33E+06	1.14E+01
Xe-135m	1.68E+03	4.53E-08	7.75E+05	6.64E+00
Xe-137	3.05E+03	8.24E-08	1.50E+06	1.28E+01
Xe-138	5.80E+02	1.57E-08	2.69E+05	2.30E+00
Cs-121	5.86E+02	1.58E-08	2.73E+05	2.34E+00
Cs-121m	5.89E+02	1.59E-08	2.73E+05	2.34E+00
Cs-123	6.48E+02	1.75E-08	2.99E+05	2.56E+00
Cs-124	5.84E+02	1.58E-08	2.73E+05	2.34E+00
Cs-125	9.41E+02	2.54E-08	4.34E+05	3.72E+00
Cs-126	5.99E+02	1.62E-08	2.78E+05	2.38E+00
Cs-127	1.72E+03	4.66E-08	7.91E+05	6.78E+00
Cs-128	7.85E+02	2.12E-08	3.64E+05	3.12E+00
Cs-129	2.83E+03	7.65E-08	1.29E+06	1.10E+01
Cs-130	1.42E+03	3.84E-08	6.57E+05	5.63E+00
Cs-130m	1.58E+04	4.26E-07	7.00E+06	6.00E+01
Cs-131	1.32E+05	3.57E-06	5.63E+07	4.83E+02
Cs-132	1.01E+03	2.72E-08	4.63E+05	3.97E+00
Cs-134	4.49E+02	1.21E-08	2.07E+05	1.78E+00
Cs-134m	3.96E+04	1.07E-06	1.79E+07	1.54E+02

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
Cs-135	1.46E+06	3.95E-05	1.34E+09	1.15E+04
Cs-135m	4.34E+02	1.17E-08	1.99E+05	1.71E+00
Cs-136	3.23E+02	8.74E-09	1.49E+05	1.28E+00
Cs-137	3.37E+05	9.12E-06	3.02E+08	2.59E+03
Cs-138	2.76E+02	7.45E-09	1.28E+05	1.10E+00
Cs-138m	1.65E+03	4.46E-08	7.66E+05	6.56E+00
Cs-139	1.91E+03	5.16E-08	9.19E+05	7.88E+00
Cs-140	3.57E+02	9.64E-09	1.66E+05	1.42E+00
Ba-124	1.26E+03	3.41E-08	5.81E+05	4.98E+00
Ba-126	1.24E+03	3.35E-08	5.69E+05	4.88E+00
Ba-127	9.67E+02	2.61E-08	4.48E+05	3.84E+00
Ba-128	1.50E+04	4.04E-07	6.79E+06	5.82E+01
Ba-129	2.20E+03	5.95E-08	1.01E+06	8.68E+00
Ba-129m	4.40E+02	1.19E-08	2.03E+05	1.74E+00
Ba-131	1.59E+03	4.29E-08	7.27E+05	6.23E+00
Ba-131m	1.20E+04	3.23E-07	5.35E+06	4.58E+01
Ba-133	1.96E+03	5.29E-08	8.91E+05	7.63E+00
Ba-133m	1.27E+04	3.44E-07	5.92E+06	5.07E+01
Ba-135m	1.47E+04	3.97E-07	6.82E+06	5.84E+01
Ba-137m	1.18E+03	3.19E-08	5.44E+05	4.66E+00
Ba-139	1.19E+04	3.21E-07	6.13E+06	5.26E+01
Ba-140	3.93E+03	1.06E-07	1.82E+06	1.56E+01
Ba-141	7.34E+02	1.98E-08	3.40E+05	2.92E+00
Ba-142	6.55E+02	1.77E-08	3.02E+05	2.59E+00
La-128	2.44E+02	6.59E-09	1.12E+05	9.64E-01
La-129	7.72E+02	2.09E-08	3.56E+05	3.05E+00
La-130	3.08E+02	8.32E-09	1.42E+05	1.22E+00
La-131	1.10E+03	2.98E-08	5.07E+05	4.34E+00
La-132	3.40E+02	9.18E-09	1.57E+05	1.35E+00
La-132m	1.07E+03	2.91E-08	4.94E+05	4.23E+00
La-133	4.96E+03	1.34E-07	2.28E+06	1.96E+01
La-134	9.73E+02	2.63E-08	4.52E+05	3.87E+00
La-135	4.10E+04	1.11E-06	1.83E+07	1.57E+02
La-136	1.77E+03	4.79E-08	8.21E+05	7.04E+00
La-137	1.03E+05	2.79E-06	4.40E+07	3.77E+02
La-138	5.45E+02	1.47E-08	2.52E+05	2.16E+00
La-140	2.86E+02	7.72E-09	1.33E+05	1.14E+00

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
La-141	1.48E+04	4.00E-07	8.21E+06	7.04E+01
La-142	2.66E+02	7.20E-09	1.24E+05	1.06E+00
La-143	2.28E+03	6.17E-08	1.09E+06	9.34E+00
Ce-130	1.48E+03	4.00E-08	6.80E+05	5.83E+00
Ce-131	4.27E+02	1.15E-08	1.97E+05	1.69E+00
Ce-132	2.91E+03	7.86E-08	1.32E+06	1.13E+01
Ce-133	1.39E+03	3.76E-08	6.39E+05	5.48E+00
Ce-133m	3.99E+02	1.08E-08	1.83E+05	1.57E+00
Ce-134	7.55E+04	2.04E-06	3.26E+07	2.80E+02
Ce-135	8.78E+02	2.37E-08	4.04E+05	3.46E+00
Ce-137	3.74E+04	1.01E-06	1.67E+07	1.43E+02
Ce-137m	1.63E+04	4.42E-07	7.59E+06	6.50E+01
Ce-139	5.30E+03	1.43E-07	2.40E+06	2.06E+01
Ce-141	1.01E+04	2.74E-07	4.62E+06	3.96E+01
Ce-143	2.66E+03	7.20E-08	1.23E+06	1.05E+01
Ce-144	4.31E+04	1.17E-06	1.97E+07	1.69E+02
Ce-145	8.71E+02	2.35E-08	4.03E+05	3.45E+00
Pr-134	2.20E+02	5.95E-09	1.02E+05	8.71E-01
Pr-134m	2.94E+02	7.94E-09	1.36E+05	1.16E+00
Pr-135	8.15E+02	2.20E-08	3.77E+05	3.23E+00
Pr-136	3.19E+02	8.61E-09	1.47E+05	1.26E+00
Pr-137	1.96E+03	5.29E-08	9.06E+05	7.76E+00
Pr-138	8.50E+02	2.30E-08	3.95E+05	3.39E+00
Pr-138m	2.81E+02	7.58E-09	1.29E+05	1.11E+00
Pr-139	6.22E+03	1.68E-07	2.86E+06	2.45E+01
Pr-140	1.30E+03	3.51E-08	6.02E+05	5.16E+00
Pr-142	9.09E+03	2.46E-07	4.57E+06	3.92E+01
Pr-143	1.63E+05	4.39E-06	1.43E+08	1.22E+03
Pr-144	1.26E+04	3.41E-07	7.13E+06	6.11E+01
Pr-144m	1.26E+05	3.40E-06	5.51E+07	4.72E+02
Pr-145	2.31E+04	6.26E-07	1.29E+07	1.10E+02
Pr-146	6.45E+02	1.74E-08	2.99E+05	2.56E+00
Pr-147	1.45E+03	3.93E-08	6.76E+05	5.79E+00
Pr-148	6.57E+02	1.77E-08	3.08E+05	2.64E+00
Pr-148m	7.26E+02	1.96E-08	3.39E+05	2.90E+00
Nd-134	1.37E+03	3.69E-08	6.27E+05	5.37E+00
Nd-135	5.63E+02	1.52E-08	2.60E+05	2.23E+00

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
Nd-136	2.88E+03	7.79E-08	1.32E+06	1.13E+01
Nd-137	5.95E+02	1.61E-08	2.73E+05	2.34E+00
Nd-138	2.94E+04	7.94E-07	1.30E+07	1.11E+02
Nd-139	1.63E+03	4.39E-08	7.51E+05	6.44E+00
Nd-139m	4.41E+02	1.19E-08	2.03E+05	1.74E+00
Nd-140	7.14E+04	1.93E-06	3.05E+07	2.61E+02
Nd-141	1.20E+04	3.25E-07	5.48E+06	4.69E+01
Nd-141m	1.00E+03	2.71E-08	4.63E+05	3.97E+00
Nd-147	5.52E+03	1.49E-07	2.54E+06	2.17E+01
Nd-149	1.95E+03	5.26E-08	8.98E+05	7.70E+00
Nd-151	8.07E+02	2.18E-08	3.73E+05	3.20E+00
Nd-152	4.35E+03	1.18E-07	2.02E+06	1.73E+01
Pm-136	2.54E+02	6.86E-09	1.18E+05	1.01E+00
Pm-137m	3.96E+02	1.07E-08	1.82E+05	1.56E+00
Pm-139	7.39E+02	2.00E-08	3.43E+05	2.94E+00
Pm-140	6.43E+02	1.74E-08	3.02E+05	2.59E+00
Pm-140m	2.28E+02	6.17E-09	1.05E+05	9.03E-01
Pm-141	9.47E+02	2.56E-08	4.38E+05	3.75E+00
Pm-142	8.03E+02	2.17E-08	3.74E+05	3.20E+00
Pm-143	2.35E+03	6.35E-08	1.08E+06	9.28E+00
Pm-144	4.56E+02	1.23E-08	2.10E+05	1.80E+00
Pm-145	5.77E+04	1.56E-06	2.48E+07	2.12E+02
Pm-146	9.52E+02	2.57E-08	4.39E+05	3.76E+00
Pm-147	3.66E+06	9.90E-05	3.29E+09	2.82E+04
Pm-148	1.15E+03	3.11E-08	5.35E+05	4.58E+00
Pm-148m	3.53E+02	9.53E-09	1.63E+05	1.39E+00
Pm-149	4.17E+04	1.13E-06	2.25E+07	1.93E+02
Pm-150	4.55E+02	1.23E-08	2.11E+05	1.81E+00
Pm-151	2.20E+03	5.95E-08	1.02E+06	8.71E+00
Pm-152	2.19E+03	5.91E-08	1.04E+06	8.94E+00
Pm-152m	4.49E+02	1.21E-08	2.07E+05	1.78E+00
Pm-153	9.33E+03	2.52E-07	4.52E+06	3.87E+01
Pm-154	3.63E+02	9.82E-09	1.69E+05	1.45E+00
Pm-154m	3.73E+02	1.01E-08	1.72E+05	1.48E+00
Sm-139	4.78E+02	1.29E-08	2.20E+05	1.89E+00
Sm-140	1.25E+03	3.39E-08	5.78E+05	4.95E+00
Sm-141	4.90E+02	1.32E-08	2.26E+05	1.94E+00

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
Sm-141m	3.55E+02	9.61E-09	1.64E+05	1.41E+00
Sm-142	7.60E+03	2.06E-07	3.48E+06	2.98E+01
Sm-143	1.34E+03	3.63E-08	6.21E+05	5.32E+00
Sm-143m	1.02E+03	2.76E-08	4.70E+05	4.03E+00
Sm-145	2.58E+04	6.97E-07	1.11E+07	9.50E+01
Sm-151	1.20E+09	3.23E-02	5.11E+11	4.38E+06
Sm-153	1.50E+04	4.04E-07	6.82E+06	5.84E+01
Sm-155	7.16E+03	1.93E-07	3.36E+06	2.88E+01
Sm-156	6.70E+03	1.81E-07	3.05E+06	2.61E+01
Sm-157	1.66E+03	4.49E-08	7.75E+05	6.64E+00
Eu-142	5.49E+02	1.48E-08	2.58E+05	2.21E+00
Eu-142m	2.01E+02	5.42E-09	9.27E+04	7.95E-01
Eu-143	6.03E+02	1.63E-08	2.81E+05	2.40E+00
Eu-144	6.12E+02	1.65E-08	2.86E+05	2.45E+00
Eu-145	5.33E+02	1.44E-08	2.46E+05	2.11E+00
Eu-146	2.86E+02	7.72E-09	1.32E+05	1.13E+00
Eu-147	1.56E+03	4.22E-08	7.17E+05	6.15E+00
Eu-148	3.14E+02	8.49E-09	1.45E+05	1.24E+00
Eu-149	1.56E+04	4.22E-07	7.00E+06	6.00E+01
Eu-150	4.58E+02	1.24E-08	2.10E+05	1.80E+00
Eu-150m	1.36E+04	3.68E-07	6.50E+06	5.57E+01
Eu-152	5.89E+02	1.59E-08	2.71E+05	2.32E+00
Eu-152m	2.31E+03	6.26E-08	1.08E+06	9.24E+00
Eu-152n	1.21E+04	3.26E-07	5.36E+06	4.59E+01
Eu-154	5.49E+02	1.48E-08	2.54E+05	2.17E+00
Eu-154m	1.47E+04	3.99E-07	6.51E+06	5.58E+01
Eu-155	1.46E+04	3.95E-07	6.51E+06	5.58E+01
Eu-156	5.34E+02	1.44E-08	2.48E+05	2.12E+00
Eu-157	2.58E+03	6.97E-08	1.19E+06	1.02E+01
Eu-158	5.16E+02	1.40E-08	2.40E+05	2.06E+00
Eu-159	2.40E+03	6.49E-08	1.12E+06	9.60E+00
Gd-142	6.63E+02	1.79E-08	3.08E+05	2.64E+00
Gd-143m	3.25E+02	8.77E-09	1.50E+05	1.29E+00
Gd-144	7.46E+02	2.02E-08	3.45E+05	2.96E+00
Gd-145	2.69E+02	7.26E-09	1.24E+05	1.07E+00
Gd-145m	1.03E+03	2.78E-08	4.75E+05	4.07E+00
Gd-146	3.63E+03	9.81E-08	1.63E+06	1.39E+01

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
Gd-147	5.04E+02	1.36E-08	2.31E+05	1.98E+00
Gd-149	1.42E+03	3.83E-08	6.48E+05	5.56E+00
Gd-151	1.47E+04	3.99E-07	6.59E+06	5.65E+01
Gd-153	1.02E+04	2.76E-07	4.50E+06	3.85E+01
Gd-159	1.35E+04	3.65E-07	6.41E+06	5.49E+01
Gd-162	1.70E+03	4.61E-08	7.89E+05	6.76E+00
Tb-146	1.82E+02	4.93E-09	8.41E+04	7.21E-01
Tb-147	3.11E+02	8.40E-09	1.44E+05	1.24E+00
Tb-147m	3.48E+02	9.41E-09	1.61E+05	1.38E+00
Tb-148	2.86E+02	7.72E-09	1.32E+05	1.13E+00
Tb-148m	2.23E+02	6.04E-09	1.03E+05	8.79E-01
Tb-149	5.05E+02	1.36E-08	2.33E+05	2.00E+00
Tb-149m	5.11E+02	1.38E-08	2.37E+05	2.03E+00
Tb-150	2.71E+02	7.32E-09	1.25E+05	1.07E+00
Tb-150m	2.83E+02	7.65E-09	1.30E+05	1.11E+00
Tb-151	7.31E+02	1.97E-08	3.35E+05	2.87E+00
Tb-151m	9.91E+03	2.68E-07	4.54E+06	3.89E+01
Tb-152	4.54E+02	1.23E-08	2.10E+05	1.80E+00
Tb-152m	9.67E+02	2.61E-08	4.43E+05	3.80E+00
Tb-153	2.35E+03	6.35E-08	1.07E+06	9.15E+00
Tb-154	2.86E+02	7.72E-09	1.32E+05	1.13E+00
Tb-155	5.03E+03	1.36E-07	2.26E+06	1.94E+01
Tb-156	3.57E+02	9.66E-09	1.64E+05	1.41E+00
Tb-156m	3.43E+04	9.28E-07	1.49E+07	1.28E+02
Tb-156n	3.18E+05	8.60E-06	1.41E+08	1.21E+03
Tb-157	3.23E+05	8.72E-06	1.39E+08	1.19E+03
Tb-158	8.78E+02	2.37E-08	4.04E+05	3.47E+00
Tb-160	6.10E+02	1.65E-08	2.81E+05	2.40E+00
Tb-161	3.47E+04	9.38E-07	1.58E+07	1.35E+02
Tb-162	6.29E+02	1.70E-08	2.91E+05	2.49E+00
Tb-163	9.03E+02	2.44E-08	4.16E+05	3.57E+00
Tb-164	2.78E+02	7.52E-09	1.28E+05	1.10E+00
Tb-165	7.85E+02	2.12E-08	3.66E+05	3.13E+00
Dy-148	1.01E+03	2.72E-08	4.63E+05	3.97E+00
Dy-149	4.22E+02	1.14E-08	1.95E+05	1.67E+00
Dy-150	2.69E+03	7.26E-08	1.23E+06	1.06E+01
Dy-151	5.05E+02	1.36E-08	2.33E+05	2.00E+00

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
Dy-152	2.69E+03	7.26E-08	1.22E+06	1.05E+01
Dy-153	8.30E+02	2.24E-08	3.80E+05	3.26E+00
Dy-155	1.07E+03	2.90E-08	4.92E+05	4.21E+00
Dy-157	2.20E+03	5.95E-08	1.01E+06	8.63E+00
Dy-159	3.17E+04	8.57E-07	1.37E+07	1.17E+02
Dy-165	2.28E+04	6.17E-07	1.16E+07	9.95E+01
Dy-165m	4.48E+04	1.21E-06	2.05E+07	1.75E+02
Dy-166	2.42E+04	6.54E-07	1.09E+07	9.34E+01
Dy-167	1.32E+03	3.57E-08	6.13E+05	5.26E+00
Dy-168	1.83E+03	4.95E-08	8.48E+05	7.27E+00
Ho-150	3.63E+02	9.82E-09	1.69E+05	1.45E+00
Ho-153	6.88E+02	1.86E-08	3.17E+05	2.72E+00
Ho-153m	6.72E+02	1.82E-08	3.11E+05	2.66E+00
Ho-154	3.67E+02	9.93E-09	1.70E+05	1.45E+00
Ho-154m	2.91E+02	7.86E-09	1.34E+05	1.15E+00
Ho-155	1.17E+03	3.16E-08	5.38E+05	4.61E+00
Ho-156	3.24E+02	8.76E-09	1.50E+05	1.28E+00
Ho-157	1.29E+03	3.48E-08	5.89E+05	5.05E+00
Ho-159	2.09E+03	5.64E-08	9.44E+05	8.09E+00
Ho-160	4.15E+02	1.12E-08	1.91E+05	1.64E+00
Ho-161	2.38E+04	6.44E-07	1.04E+07	8.88E+01
Ho-162	4.85E+03	1.31E-07	2.22E+06	1.90E+01
Ho-162m	1.28E+03	3.46E-08	5.87E+05	5.03E+00
Ho-164	3.94E+04	1.07E-06	1.80E+07	1.54E+02
Ho-164m	2.99E+04	8.09E-07	1.30E+07	1.11E+02
Ho-166	1.81E+04	4.90E-07	9.49E+06	8.14E+01
Ho-166m	4.35E+02	1.18E-08	1.99E+05	1.71E+00
Ho-167	1.98E+03	5.36E-08	9.11E+05	7.81E+00
Ho-168	7.81E+02	2.11E-08	3.63E+05	3.11E+00
Ho-168m	2.11E+05	5.71E-06	9.16E+07	7.85E+02
Ho-170	4.05E+02	1.09E-08	1.88E+05	1.61E+00
Er-154	1.42E+04	3.83E-07	6.34E+06	5.44E+01
Er-156	1.84E+04	4.98E-07	8.15E+06	6.99E+01
Er-159	7.27E+02	1.97E-08	3.35E+05	2.87E+00
Er-161	7.11E+02	1.92E-08	3.27E+05	2.80E+00
Er-163	3.23E+04	8.73E-07	1.40E+07	1.20E+02
Er-165	3.52E+04	9.51E-07	1.52E+07	1.31E+02

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
Er-167m	7.87E+03	2.13E-07	3.59E+06	3.08E+01
Er-169	1.07E+06	2.91E-05	9.79E+08	8.39E+03
Er-171	1.97E+03	5.32E-08	9.06E+05	7.76E+00
Er-172	1.42E+03	3.83E-08	6.50E+05	5.57E+00
Er-173	8.50E+02	2.30E-08	3.92E+05	3.36E+00
Tm-161	5.38E+02	1.46E-08	2.48E+05	2.12E+00
Tm-162	3.47E+02	9.38E-09	1.60E+05	1.37E+00
Tm-163	5.26E+02	1.42E-08	2.42E+05	2.07E+00
Tm-164	8.88E+02	2.40E-08	4.12E+05	3.53E+00
Tm-165	1.32E+03	3.57E-08	6.06E+05	5.20E+00
Tm-166	3.41E+02	9.22E-09	1.57E+05	1.35E+00
Tm-167	5.78E+03	1.56E-07	2.62E+06	2.25E+01
Tm-168	5.75E+02	1.56E-08	2.64E+05	2.26E+00
Tm-170	9.76E+04	2.64E-06	6.17E+07	5.29E+02
Tm-171	1.87E+06	5.04E-05	8.15E+08	6.99E+03
Tm-172	1.38E+03	3.74E-08	6.45E+05	5.52E+00
Tm-173	1.84E+03	4.98E-08	8.48E+05	7.27E+00
Tm-174	3.94E+02	1.06E-08	1.81E+05	1.55E+00
Tm-175	6.39E+02	1.73E-08	2.96E+05	2.54E+00
Tm-176	3.38E+02	9.13E-09	1.56E+05	1.34E+00
Yb-162	3.17E+03	8.57E-08	1.43E+06	1.23E+01
Yb-163	9.64E+02	2.60E-08	4.45E+05	3.81E+00
Yb-164	1.97E+04	5.32E-07	8.71E+06	7.47E+01
Yb-165	2.31E+03	6.26E-08	1.05E+06	9.03E+00
Yb-166	1.34E+04	3.62E-07	5.85E+06	5.01E+01
Yb-167	3.32E+03	8.97E-08	1.48E+06	1.27E+01
Yb-169	2.66E+03	7.20E-08	1.20E+06	1.03E+01
Yb-175	1.83E+04	4.95E-07	8.50E+06	7.29E+01
Yb-177	3.48E+03	9.41E-08	1.63E+06	1.39E+01
Yb-178	1.80E+04	4.87E-07	8.48E+06	7.27E+01
Yb-179	7.21E+02	1.95E-08	3.33E+05	2.85E+00
Lu-165	6.32E+02	1.71E-08	2.91E+05	2.49E+00
Lu-167	3.99E+02	1.08E-08	1.84E+05	1.58E+00
Lu-169	5.22E+02	1.41E-08	2.40E+05	2.06E+00
Lu-169m	1.26E+09	3.40E-02	5.44E+11	4.66E+06
Lu-170	2.54E+02	6.86E-09	1.17E+05	1.00E+00
Lu-171	1.14E+03	3.07E-08	5.21E+05	4.46E+00

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
Lu-171m	3.22E+06	8.69E-05	1.42E+09	1.21E+04
Lu-172	3.54E+02	9.56E-09	1.63E+05	1.40E+00
Lu-172m	8.13E+08	2.20E-02	3.51E+11	3.01E+06
Lu-173	4.90E+03	1.32E-07	2.20E+06	1.89E+01
Lu-174	7.11E+03	1.92E-07	3.22E+06	2.76E+01
Lu-174m	1.78E+04	4.81E-07	7.85E+06	6.73E+01
Lu-176	1.53E+03	4.14E-08	7.02E+05	6.01E+00
Lu-176m	4.11E+04	1.11E-06	2.25E+07	1.93E+02
Lu-177	2.11E+04	5.71E-07	9.76E+06	8.36E+01
Lu-177m	7.50E+02	2.03E-08	3.41E+05	2.93E+00
Lu-178	4.92E+03	1.33E-07	2.37E+06	2.03E+01
Lu-178m	7.00E+02	1.89E-08	3.21E+05	2.75E+00
Lu-179	1.95E+04	5.26E-07	9.82E+06	8.41E+01
Lu-180	4.47E+02	1.21E-08	2.07E+05	1.78E+00
Lu-181	1.23E+03	3.32E-08	5.69E+05	4.88E+00
Hf-167	1.16E+03	3.14E-08	5.37E+05	4.60E+00
Hf-169	1.14E+03	3.08E-08	5.24E+05	4.49E+00
Hf-170	1.73E+03	4.68E-08	7.91E+05	6.78E+00
Hf-172	1.03E+04	2.77E-07	4.52E+06	3.87E+01
Hf-173	1.96E+03	5.29E-08	8.88E+05	7.61E+00
Hf-175	2.16E+03	5.83E-08	9.85E+05	8.44E+00
Hf-177m	3.22E+02	8.71E-09	1.47E+05	1.26E+00
Hf-178m	3.24E+02	8.76E-09	1.49E+05	1.28E+00
Hf-179m	8.09E+02	2.19E-08	3.69E+05	3.16E+00
Hf-180m	7.43E+02	2.01E-08	3.40E+05	2.91E+00
Hf-181	1.37E+03	3.69E-08	6.28E+05	5.38E+00
Hf-182	3.05E+03	8.24E-08	1.40E+06	1.20E+01
Hf-182m	7.95E+02	2.15E-08	3.65E+05	3.13E+00
Hf-183	9.06E+02	2.45E-08	4.18E+05	3.59E+00
Hf-184	3.21E+03	8.67E-08	1.47E+06	1.26E+01
Ta-170	6.50E+02	1.76E-08	3.02E+05	2.59E+00
Ta-172	4.05E+02	1.10E-08	1.88E+05	1.61E+00
Ta-173	1.24E+03	3.35E-08	5.68E+05	4.87E+00
Ta-174	7.11E+02	1.92E-08	3.28E+05	2.81E+00
Ta-175	6.23E+02	1.68E-08	2.86E+05	2.45E+00
Ta-176	2.96E+02	8.01E-09	1.37E+05	1.17E+00
Ta-177	1.46E+04	3.95E-07	6.47E+06	5.55E+01

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
Ta-178	6.72E+03	1.82E-07	3.05E+06	2.61E+01
Ta-178m	6.46E+02	1.75E-08	2.94E+05	2.52E+00
Ta-179	4.56E+04	1.23E-06	1.99E+07	1.71E+02
Ta-180	2.23E+04	6.04E-07	9.85E+06	8.44E+01
Ta-182	5.30E+02	1.43E-08	2.44E+05	2.09E+00
Ta-182m	3.02E+03	8.16E-08	1.37E+06	1.18E+01
Ta-183	2.64E+03	7.14E-08	1.21E+06	1.03E+01
Ta-184	4.49E+02	1.21E-08	2.06E+05	1.76E+00
Ta-185	4.73E+03	1.28E-07	2.22E+06	1.90E+01
Ta-186	4.93E+02	1.33E-08	2.28E+05	1.96E+00
W-177	7.95E+02	2.15E-08	3.64E+05	3.12E+00
W-178	7.32E+04	1.98E-06	3.21E+07	2.75E+02
W-179	2.19E+04	5.91E-07	9.55E+06	8.19E+01
W-179m	1.59E+04	4.31E-07	7.22E+06	6.19E+01
W-181	2.76E+04	7.45E-07	1.21E+07	1.03E+02
W-185	6.39E+05	1.73E-05	5.59E+08	4.79E+03
W-185m	3.40E+04	9.19E-07	1.55E+07	1.33E+02
W-187	1.59E+03	4.29E-08	7.32E+05	6.28E+00
W-188	2.88E+05	7.79E-06	1.52E+08	1.31E+03
W-190	5.51E+03	1.49E-07	2.52E+06	2.16E+01
Re-178	3.88E+02	1.05E-08	1.79E+05	1.54E+00
Re-179	6.47E+02	1.75E-08	2.96E+05	2.54E+00
Re-180	5.83E+02	1.58E-08	2.69E+05	2.30E+00
Re-181	9.01E+02	2.43E-08	4.14E+05	3.55E+00
Re-182	3.91E+02	1.06E-08	1.80E+05	1.54E+00
Re-182m	5.67E+02	1.53E-08	2.60E+05	2.23E+00
Re-183	5.73E+03	1.55E-07	2.56E+06	2.19E+01
Re-184	7.95E+02	2.15E-08	3.65E+05	3.13E+00
Re-184m	1.93E+03	5.23E-08	8.86E+05	7.59E+00
Re-186	3.19E+04	8.61E-07	1.59E+07	1.37E+02
Re-186m	7.44E+04	2.01E-06	3.26E+07	2.80E+02
Re-188	9.64E+03	2.60E-07	4.80E+06	4.12E+01
Re-188m	1.40E+04	3.79E-07	6.19E+06	5.31E+01
Re-189	1.24E+04	3.36E-07	5.87E+06	5.03E+01
Re-190	5.25E+02	1.42E-08	2.42E+05	2.07E+00
Re-190m	7.68E+02	2.08E-08	3.54E+05	3.03E+00
Os-180	6.79E+03	1.84E-07	3.08E+06	2.64E+01

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
Os-181	5.03E+02	1.36E-08	2.31E+05	1.98E+00
Os-182	1.74E+03	4.71E-08	7.97E+05	6.83E+00
Os-183	1.19E+03	3.22E-08	5.44E+05	4.66E+00
Os-183m	6.85E+02	1.85E-08	3.17E+05	2.72E+00
Os-185	1.04E+03	2.80E-08	4.77E+05	4.09E+00
Os-189m	3.08E+08	8.32E-03	1.33E+11	1.14E+06
Os-190m	4.50E+02	1.22E-08	2.07E+05	1.78E+00
Os-191	1.07E+04	2.91E-07	4.79E+06	4.11E+01
Os-191m	1.74E+05	4.71E-06	7.64E+07	6.55E+02
Os-193	1.05E+04	2.83E-07	4.95E+06	4.24E+01
Os-194	6.23E+05	1.68E-05	2.69E+08	2.30E+03
Os-196	8.71E+03	2.35E-07	4.10E+06	3.52E+01
Ir-180	4.38E+02	1.18E-08	2.03E+05	1.74E+00
Ir-182	4.94E+02	1.33E-08	2.28E+05	1.96E+00
Ir-183	5.79E+02	1.56E-08	2.66E+05	2.28E+00
Ir-184	3.52E+02	9.51E-09	1.62E+05	1.39E+00
Ir-185	8.03E+02	2.17E-08	3.69E+05	3.16E+00
Ir-186	4.16E+02	1.12E-08	1.91E+05	1.64E+00
Ir-186m	5.46E+02	1.48E-08	2.52E+05	2.16E+00
Ir-187	2.26E+03	6.12E-08	1.03E+06	8.85E+00
Ir-188	3.14E+02	8.49E-09	1.45E+05	1.24E+00
Ir-189	1.19E+04	3.21E-07	5.29E+06	4.54E+01
Ir-190	4.87E+02	1.32E-08	2.23E+05	1.91E+00
Ir-190m	2.78E+08	7.52E-03	1.20E+11	1.03E+06
Ir-190n	1.74E+04	4.71E-07	7.70E+06	6.60E+01
Ir-191m	1.19E+04	3.22E-07	5.32E+06	4.56E+01
Ir-192	8.78E+02	2.37E-08	4.03E+05	3.46E+00
Ir-192m	1.18E+07	3.20E-04	5.36E+09	4.59E+04
Ir-192n	4.77E+05	1.29E-05	3.30E+08	2.83E+03
Ir-193m	3.05E+06	8.24E-05	1.37E+09	1.17E+04
Ir-194	6.65E+03	1.80E-07	3.26E+06	2.79E+01
Ir-194m	3.05E+02	8.24E-09	1.40E+05	1.20E+00
Ir-195	1.44E+04	3.90E-07	6.72E+06	5.76E+01
Ir-195m	1.95E+03	5.26E-08	8.91E+05	7.63E+00
Ir-196	2.73E+03	7.39E-08	1.31E+06	1.12E+01
Ir-196m	2.88E+02	7.79E-09	1.33E+05	1.14E+00
Pt-184	1.05E+03	2.84E-08	4.78E+05	4.10E+00

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
Pt-186	1.06E+03	2.87E-08	4.87E+05	4.17E+00
Pt-187	1.19E+03	3.22E-08	5.46E+05	4.68E+00
Pt-188	3.94E+03	1.07E-07	1.78E+06	1.53E+01
Pt-189	1.54E+03	4.16E-08	7.03E+05	6.03E+00
Pt-191	2.69E+03	7.26E-08	1.22E+06	1.05E+01
Pt-193	1.12E+08	3.03E-03	4.83E+10	4.14E+05
Pt-193m	8.62E+04	2.33E-06	3.94E+07	3.38E+02
Pt-195m	1.29E+04	3.50E-07	5.74E+06	4.92E+01
Pt-197	3.20E+04	8.65E-07	1.51E+07	1.29E+02
Pt-197m	9.73E+03	2.63E-07	4.50E+06	3.85E+01
Pt-199	3.44E+03	9.29E-08	1.61E+06	1.38E+01
Pt-200	1.36E+04	3.68E-07	6.23E+06	5.34E+01
Pt-202	6.30E+04	1.70E-06	5.24E+07	4.49E+02
Au-186	4.62E+02	1.25E-08	2.13E+05	1.82E+00
Au-187	6.39E+02	1.73E-08	2.94E+05	2.52E+00
Au-190	2.73E+02	7.39E-09	1.26E+05	1.08E+00
Au-191	1.24E+03	3.36E-08	5.68E+05	4.87E+00
Au-192	3.41E+02	9.23E-09	1.57E+05	1.35E+00
Au-193	4.95E+03	1.34E-07	2.23E+06	1.91E+01
Au-193m	3.79E+03	1.02E-07	1.73E+06	1.49E+01
Au-194	6.59E+02	1.78E-08	3.02E+05	2.59E+00
Au-195	1.17E+04	3.17E-07	5.20E+06	4.46E+01
Au-195m	3.72E+03	1.01E-07	1.70E+06	1.45E+01
Au-196	1.57E+03	4.24E-08	7.17E+05	6.15E+00
Au-196m	3.27E+03	8.84E-08	1.48E+06	1.27E+01
Au-198	1.76E+03	4.76E-08	8.13E+05	6.97E+00
Au-198m	1.43E+03	3.88E-08	6.51E+05	5.58E+00
Au-199	7.99E+03	2.16E-07	3.63E+06	3.11E+01
Au-200	2.38E+03	6.44E-08	1.12E+06	9.57E+00
Au-200m	3.59E+02	9.69E-09	1.65E+05	1.42E+00
Au-201	1.77E+04	4.79E-07	8.76E+06	7.51E+01
Au-202	3.56E+03	9.63E-08	1.71E+06	1.47E+01
Hg-190	4.10E+03	1.11E-07	1.84E+06	1.58E+01
Hg-191m	4.71E+02	1.27E-08	2.17E+05	1.86E+00
Hg-192	2.88E+03	7.79E-08	1.30E+06	1.11E+01
Hg-193	8.32E+02	2.25E-08	3.83E+05	3.28E+00
Hg-193m	6.79E+02	1.84E-08	3.14E+05	2.69E+00

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
Hg-194	7.06E+07	1.91E-03	3.05E+10	2.61E+05
Hg-195	3.85E+03	1.04E-07	1.75E+06	1.50E+01
Hg-195m	3.79E+03	1.02E-07	1.73E+06	1.49E+01
Hg-197	1.33E+04	3.59E-07	5.86E+06	5.02E+01
Hg-197m	8.46E+03	2.29E-07	3.83E+06	3.28E+01
Hg-199m	4.21E+03	1.14E-07	1.92E+06	1.65E+01
Hg-203	3.05E+03	8.24E-08	1.40E+06	1.20E+01
Hg-205	5.12E+04	1.38E-06	3.29E+07	2.82E+02
Hg-206	5.70E+03	1.54E-07	2.66E+06	2.28E+01
Hg-207	2.48E+02	6.70E-09	1.14E+05	9.81E-01
Tl-190	5.34E+02	1.44E-08	2.48E+05	2.12E+00
Tl-190m	2.86E+02	7.72E-09	1.32E+05	1.13E+00
Tl-194	7.73E+02	2.09E-08	3.57E+05	3.06E+00
Tl-194m	2.81E+02	7.58E-09	1.29E+05	1.10E+00
Tl-195	5.52E+02	1.49E-08	2.54E+05	2.17E+00
Tl-196	3.60E+02	9.74E-09	1.66E+05	1.42E+00
Tl-197	1.57E+03	4.24E-08	7.21E+05	6.18E+00
Tl-198	3.34E+02	9.02E-09	1.54E+05	1.32E+00
Tl-198m	5.92E+02	1.60E-08	2.71E+05	2.32E+00
Tl-199	3.08E+03	8.32E-08	1.40E+06	1.20E+01
Tl-200	5.30E+02	1.43E-08	2.44E+05	2.09E+00
Tl-201	9.73E+03	2.63E-07	4.33E+06	3.71E+01
Tl-202	1.59E+03	4.31E-08	7.27E+05	6.23E+00
Tl-204	1.81E+05	4.90E-06	1.30E+08	1.11E+03
Tl-206	7.99E+04	2.16E-06	6.68E+07	5.72E+02
Tl-206m	2.91E+02	7.86E-09	1.34E+05	1.15E+00
Tl-207	6.88E+04	1.86E-06	4.88E+07	4.18E+02
Tl-208	1.89E+02	5.10E-09	8.71E+04	7.47E-01
Tl-209	3.11E+02	8.40E-09	1.44E+05	1.24E+00
Tl-210	2.40E+02	6.49E-09	1.11E+05	9.54E-01
Pb-194	6.42E+02	1.73E-08	2.96E+05	2.54E+00
Pb-195m	4.29E+02	1.16E-08	1.97E+05	1.69E+00
Pb-196	1.51E+03	4.08E-08	6.89E+05	5.91E+00
Pb-197	4.44E+02	1.20E-08	2.05E+05	1.75E+00
Pb-197m	6.07E+02	1.64E-08	2.78E+05	2.38E+00
Pb-198	1.70E+03	4.61E-08	7.79E+05	6.68E+00
Pb-199	6.62E+02	1.79E-08	3.05E+05	2.61E+00

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
Pb-200	3.89E+03	1.05E-07	1.75E+06	1.50E+01
Pb-201	9.49E+02	2.57E-08	4.36E+05	3.73E+00
Pb-201m	1.95E+03	5.26E-08	8.96E+05	7.68E+00
Pb-202	6.54E+07	1.77E-03	2.83E+10	2.43E+05
Pb-202m	3.50E+02	9.46E-09	1.61E+05	1.38E+00
Pb-203	2.42E+03	6.54E-08	1.10E+06	9.44E+00
Pb-204m	3.36E+02	9.07E-09	1.55E+05	1.33E+00
Pb-205	6.45E+07	1.74E-03	2.78E+10	2.38E+05
Pb-209	3.17E+05	8.57E-06	2.83E+08	2.43E+03
Pb-210	6.73E+05	1.82E-05	2.91E+08	2.49E+03
Pb-211	9.85E+03	2.66E-07	4.75E+06	4.07E+01
Pb-212	5.19E+03	1.40E-07	2.37E+06	2.03E+01
Pb-214	2.86E+03	7.72E-08	1.32E+06	1.13E+01
Bi-197	4.04E+02	1.09E-08	1.87E+05	1.60E+00
Bi-200	2.88E+02	7.79E-09	1.33E+05	1.14E+00
Bi-201	3.91E+02	1.06E-08	1.80E+05	1.54E+00
Bi-202	2.52E+02	6.80E-09	1.16E+05	9.92E-01
Bi-203	2.81E+02	7.58E-09	1.30E+05	1.11E+00
Bi-204	2.35E+02	6.35E-09	1.09E+05	9.31E-01
Bi-205	3.97E+02	1.07E-08	1.83E+05	1.57E+00
Bi-206	2.10E+02	5.68E-09	9.67E+04	8.29E-01
Bi-207	4.51E+02	1.22E-08	2.07E+05	1.78E+00
Bi-208	2.35E+02	6.35E-09	1.08E+05	9.28E-01
Bi-210	1.23E+05	3.32E-06	1.06E+08	9.12E+02
Bi-210m	2.78E+03	7.52E-08	1.27E+06	1.09E+01
Bi-211	1.53E+04	4.14E-07	7.03E+06	6.03E+01
Bi-212	6.13E+03	1.66E-07	2.94E+06	2.52E+01
Bi-212n	8.15E+04	2.20E-06	6.88E+07	5.90E+02
Bi-213	5.34E+03	1.44E-07	2.52E+06	2.16E+01
Bi-214	4.46E+02	1.21E-08	2.06E+05	1.76E+00
Bi-215	2.69E+03	7.26E-08	1.26E+06	1.08E+01
Bi-216	9.30E+02	2.51E-08	4.34E+05	3.72E+00
Po-203	4.20E+02	1.14E-08	1.93E+05	1.66E+00
Po-204	6.15E+02	1.66E-08	2.83E+05	2.43E+00
Po-205	4.34E+02	1.17E-08	1.99E+05	1.71E+00
Po-206	5.95E+02	1.61E-08	2.73E+05	2.34E+00
Po-207	5.41E+02	1.46E-08	2.50E+05	2.14E+00

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
Po-208	3.39E+07	9.16E-04	1.55E+10	1.33E+05
Po-209	1.15E+05	3.11E-06	5.28E+07	4.52E+02
Po-210	7.13E+07	1.93E-03	3.29E+10	2.82E+05
Po-211	8.50E+04	2.30E-06	3.92E+07	3.36E+02
Po-212m	7.95E+03	2.15E-07	3.67E+06	3.14E+01
Po-213	1.85E+07	5.01E-04	8.55E+09	7.33E+04
Po-214	8.34E+06	2.26E-04	3.85E+09	3.30E+04
Po-215	4.07E+06	1.10E-04	1.87E+09	1.60E+04
Po-216	4.53E+07	1.22E-03	2.09E+10	1.79E+05
Po-218	1.21E+10	3.27E-01	1.11E+13	9.50E+07
At-204	3.05E+02	8.24E-09	1.40E+05	1.20E+00
At-205	6.07E+02	1.64E-08	2.81E+05	2.40E+00
At-206	2.83E+02	7.65E-09	1.30E+05	1.11E+00
At-207	3.40E+02	9.18E-09	1.56E+05	1.34E+00
At-208	2.26E+02	6.12E-09	1.05E+05	8.97E-01
At-209	3.08E+02	8.32E-09	1.42E+05	1.21E+00
At-210	2.26E+02	6.12E-09	1.05E+05	8.97E-01
At-211	2.50E+04	6.75E-07	1.11E+07	9.50E+01
At-215	4.21E+06	1.14E-04	1.93E+09	1.66E+04
At-216	3.33E+05	9.00E-06	1.50E+08	1.28E+03
At-217	2.99E+06	8.09E-05	1.37E+09	1.18E+04
At-218	3.24E+07	8.75E-04	2.54E+10	2.17E+05
At-220	1.52E+03	4.10E-08	7.11E+05	6.09E+00
Rn-207	7.19E+02	1.94E-08	3.31E+05	2.83E+00
Rn-209	5.80E+02	1.57E-08	2.66E+05	2.28E+00
Rn-210	2.50E+03	6.75E-08	5.38E+06	4.61E+01
Rn-211	3.68E+02	9.94E-09	1.70E+05	1.45E+00
Rn-212	2.30E+03	6.21E-08	9.55E+08	8.19E+03
Rn-215	1.67E+03	4.51E-08	N/A	N/A
Rn-216	1.79E+03	4.84E-08	N/A	N/A
Rn-217	1.87E+03	5.04E-08	N/A	N/A
Rn-218	2.01E+03	5.42E-08	4.29E+08	3.68E+03
Rn-219	2.14E+03	5.79E-08	5.66E+06	4.85E+01
Rn-220	2.30E+03	6.21E-08	5.20E+08	4.46E+03
Rn-222	2.64E+03	7.14E-08	8.43E+08	7.23E+03
Rn-223	2.03E+03	5.49E-08	9.47E+05	8.11E+00
Fr-212	6.03E+02	1.63E-08	2.78E+05	2.38E+00

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
Fr-219	2.02E+05	5.46E-06	9.30E+07	7.97E+02
Fr-220	9.01E+04	2.43E-06	4.04E+07	3.46E+02
Fr-221	2.54E+04	6.86E-07	1.15E+07	9.88E+01
Fr-222	3.88E+03	1.05E-07	1.82E+06	1.56E+01
Fr-223	1.47E+04	3.99E-07	6.97E+06	5.97E+01
Fr-224	1.21E+03	3.27E-08	5.63E+05	4.83E+00
Fr-227	1.59E+03	4.29E-08	7.34E+05	6.29E+00
Ra-219	4.30E+03	1.16E-07	1.97E+06	1.69E+01
Ra-220	1.53E+05	4.14E-06	7.03E+07	6.03E+02
Ra-221	2.16E+04	5.83E-07	9.79E+06	8.39E+01
Ra-222	7.85E+04	2.12E-06	3.60E+07	3.08E+02
Ra-223	5.52E+03	1.49E-07	2.50E+06	2.14E+01
Ra-224	7.03E+04	1.90E-06	3.21E+07	2.75E+02
Ra-225	1.28E+05	3.47E-06	5.84E+07	5.00E+02
Ra-226	1.02E+05	2.76E-06	4.64E+07	3.97E+02
Ra-227	4.98E+03	1.35E-07	2.31E+06	1.98E+01
Ra-228	1.10E+07	2.97E-04	4.68E+09	4.01E+04
Ra-230	9.52E+03	2.57E-07	4.39E+06	3.76E+01
Ac-223	4.36E+04	1.18E-06	1.98E+07	1.70E+02
Ac-224	3.40E+03	9.19E-08	1.54E+06	1.32E+01
Ac-225	5.60E+04	1.51E-06	2.52E+07	2.16E+02
Ac-226	5.58E+03	1.51E-07	2.58E+06	2.21E+01
Ac-227	8.69E+06	2.35E-04	3.84E+09	3.29E+04
Ac-228	7.91E+02	2.14E-08	3.66E+05	3.13E+00
Ac-230	1.19E+03	3.22E-08	5.56E+05	4.77E+00
Ac-231	1.72E+03	4.66E-08	7.97E+05	6.83E+00
Ac-232	5.61E+02	1.52E-08	2.60E+05	2.23E+00
Ac-233	1.38E+03	3.74E-08	6.45E+05	5.52E+00
Th-223	1.14E+04	3.08E-07	5.13E+06	4.40E+01
Th-224	3.25E+04	8.79E-07	1.48E+07	1.27E+02
Th-226	9.88E+04	2.67E-06	4.48E+07	3.84E+02
Th-227	6.07E+03	1.64E-07	2.76E+06	2.36E+01
Th-228	3.84E+05	1.04E-05	1.72E+08	1.48E+03
Th-229	9.55E+03	2.58E-07	4.29E+06	3.67E+01
Th-230	2.09E+06	5.64E-05	9.27E+08	7.95E+03
Th-231	6.85E+04	1.85E-06	3.11E+07	2.66E+02
Th-232	4.01E+06	1.08E-04	1.76E+09	1.51E+04

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
Th-233	1.77E+04	4.79E-07	8.74E+06	7.49E+01
Th-234	9.85E+04	2.66E-06	4.39E+07	3.76E+02
Th-235	1.08E+04	2.92E-07	5.41E+06	4.64E+01
Th-236	1.89E+04	5.10E-07	9.22E+06	7.90E+01
Pa-227	4.42E+04	1.19E-06	1.97E+07	1.69E+02
Pa-228	5.11E+02	1.38E-08	2.35E+05	2.01E+00
Pa-229	1.36E+04	3.68E-07	6.07E+06	5.21E+01
Pa-230	1.06E+03	2.87E-08	4.88E+05	4.18E+00
Pa-231	2.19E+04	5.91E-07	9.97E+06	8.55E+01
Pa-232	7.44E+02	2.01E-08	3.43E+05	2.94E+00
Pa-233	3.42E+03	9.25E-08	1.56E+06	1.34E+01
Pa-234	4.75E+02	1.28E-08	2.19E+05	1.87E+00
Pa-234m	2.23E+04	6.04E-07	1.29E+07	1.11E+02
Pa-235	9.47E+04	2.56E-06	8.07E+07	6.92E+02
Pa-236	7.27E+02	1.97E-08	3.38E+05	2.90E+00
Pa-237	1.12E+03	3.04E-08	5.22E+05	4.48E+00
U-227	6.54E+03	1.77E-07	2.96E+06	2.54E+01
U-228	1.99E+05	5.39E-06	8.98E+07	7.70E+02
U-230	6.95E+05	1.88E-05	3.11E+08	2.66E+03
U-231	1.19E+04	3.22E-07	5.32E+06	4.56E+01
U-232	2.94E+06	7.94E-05	1.30E+09	1.12E+04
U-233	2.99E+06	8.09E-05	1.35E+09	1.16E+04
U-234	5.16E+06	1.40E-04	2.26E+09	1.94E+04
U-235	4.62E+03	1.25E-07	2.10E+06	1.80E+01
U-236	8.39E+06	2.27E-04	3.65E+09	3.13E+04
U-237	6.01E+03	1.62E-07	2.71E+06	2.32E+01
U-238	9.91E+06	2.68E-04	4.33E+09	3.71E+04
U-239	1.51E+04	4.08E-07	7.19E+06	6.16E+01
U-240	1.53E+05	4.14E-06	7.37E+07	6.32E+02
U-242	1.62E+04	4.37E-07	7.87E+06	6.74E+01
Np-232	5.93E+02	1.60E-08	2.73E+05	2.34E+00
Np-233	9.38E+03	2.54E-07	4.22E+06	3.61E+01
Np-234	6.06E+02	1.64E-08	2.81E+05	2.40E+00
Np-235	1.12E+06	3.02E-05	4.93E+08	4.23E+03
Np-236	5.69E+03	1.54E-07	2.58E+06	2.21E+01
Np-236m	1.67E+04	4.51E-07	7.59E+06	6.50E+01
Np-237	3.69E+04	9.97E-07	1.64E+07	1.41E+02

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
Np-238	1.17E+03	3.15E-08	5.39E+05	4.62E+00
Np-239	4.31E+03	1.17E-07	1.96E+06	1.68E+01
Np-240	6.70E+02	1.81E-08	3.08E+05	2.64E+00
Np-240m	2.13E+03	5.75E-08	9.91E+05	8.49E+00
Np-241	1.77E+04	4.79E-07	8.64E+06	7.40E+01
Np-242	2.38E+03	6.44E-08	1.12E+06	9.64E+00
Np-242m	7.62E+02	2.06E-08	3.53E+05	3.02E+00
Pu-232	1.37E+04	3.71E-07	6.15E+06	5.27E+01
Pu-234	1.27E+04	3.43E-07	5.68E+06	4.87E+01
Pu-235	9.16E+03	2.48E-07	4.12E+06	3.53E+01
Pu-236	7.32E+06	1.98E-04	3.17E+09	2.72E+04
Pu-237	1.77E+04	4.79E-07	7.93E+06	6.79E+01
Pu-238	9.44E+06	2.55E-04	4.06E+09	3.48E+04
Pu-239	8.41E+06	2.27E-04	3.73E+09	3.19E+04
Pu-240	9.64E+06	2.60E-04	4.14E+09	3.55E+04
Pu-241	5.16E+08	1.39E-02	2.31E+11	1.98E+06
Pu-242	4.93E+06	1.33E-04	2.22E+09	1.90E+04
Pu-243	3.29E+04	8.88E-07	1.52E+07	1.31E+02
Pu-244	3.27E+04	8.84E-07	1.52E+07	1.30E+02
Pu-245	1.75E+03	4.73E-08	8.09E+05	6.93E+00
Pu-246	5.84E+03	1.58E-07	2.64E+06	2.26E+01
Am-237	2.05E+03	5.53E-08	9.30E+05	7.97E+00
Am-238	7.75E+02	2.10E-08	3.57E+05	3.06E+00
Am-239	3.38E+03	9.15E-08	1.53E+06	1.31E+01
Am-240	6.76E+02	1.83E-08	3.11E+05	2.66E+00
Am-241	4.72E+04	1.28E-06	2.06E+07	1.76E+02
Am-242	5.19E+04	1.40E-06	2.50E+07	2.14E+02
Am-242m	1.60E+06	4.33E-05	7.00E+08	6.00E+03
Am-243	1.65E+04	4.46E-07	7.31E+06	6.26E+01
Am-244	8.86E+02	2.39E-08	4.08E+05	3.50E+00
Am-244m	3.05E+04	8.24E-07	1.68E+07	1.44E+02
Am-245	2.19E+04	5.91E-07	1.05E+07	8.97E+01
Am-246	9.70E+02	2.62E-08	4.47E+05	3.83E+00
Am-246m	6.94E+02	1.88E-08	3.22E+05	2.76E+00
Am-247	5.42E+03	1.46E-07	2.54E+06	2.17E+01
Cm-238	1.04E+04	2.81E-07	4.66E+06	4.00E+01
Cm-239	3.02E+03	8.16E-08	1.37E+06	1.17E+01

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
Cm-240	6.98E+06	1.89E-04	2.99E+09	2.56E+04
Cm-241	1.50E+03	4.04E-08	6.85E+05	5.87E+00
Cm-242	8.13E+06	2.20E-04	3.49E+09	2.99E+04
Cm-243	5.95E+03	1.61E-07	2.71E+06	2.32E+01
Cm-244	7.93E+06	2.14E-04	3.44E+09	2.95E+04
Cm-245	7.93E+03	2.14E-07	3.56E+06	3.05E+01
Cm-246	1.77E+05	4.79E-06	8.19E+07	7.02E+02
Cm-247	2.30E+03	6.21E-08	1.05E+06	9.03E+00
Cm-248	4.95E+02	1.34E-08	2.28E+05	1.96E+00
Cm-249	3.11E+04	8.40E-07	1.55E+07	1.33E+02
Cm-250	4.86E+01	1.31E-09	2.25E+04	1.93E-01
Cm-251	6.10E+03	1.65E-07	2.88E+06	2.47E+01
Bk-245	3.41E+03	9.23E-08	1.55E+06	1.33E+01
Bk-246	8.30E+02	2.24E-08	3.82E+05	3.27E+00
Bk-247	5.29E+03	1.43E-07	2.40E+06	2.06E+01
Bk-248m	1.39E+04	3.76E-07	6.46E+06	5.53E+01
Bk-249	7.26E+07	1.96E-03	5.85E+10	5.01E+05
Bk-250	7.59E+02	2.05E-08	3.51E+05	3.01E+00
Bk-251	8.91E+03	2.41E-07	4.12E+06	3.53E+01
Cf-244	7.34E+06	1.98E-04	3.14E+09	2.69E+04
Cf-246	6.47E+06	1.75E-04	2.83E+09	2.43E+04
Cf-247	8.86E+03	2.39E-07	3.99E+06	3.42E+01
Cf-248	1.59E+06	4.29E-05	7.21E+08	6.18E+03
Cf-249	2.22E+03	5.99E-08	1.02E+06	8.74E+00
Cf-250	6.58E+04	1.78E-06	3.05E+07	2.61E+02
Cf-251	6.55E+03	1.77E-07	2.96E+06	2.54E+01
Cf-252	1.42E+03	3.84E-08	6.59E+05	5.65E+00
Cf-253	1.01E+06	2.72E-05	5.62E+08	4.82E+03
Cf-254	3.85E+01	1.04E-09	1.78E+04	1.53E-01
Cf-255	2.73E+05	7.39E-06	2.44E+08	2.09E+03
Es-249	1.79E+03	4.84E-08	8.21E+05	7.04E+00
Es-250	6.04E+02	1.63E-08	2.78E+05	2.38E+00
Es-250m	1.27E+03	3.44E-08	5.85E+05	5.01E+00
Es-251	8.86E+03	2.39E-07	3.98E+06	3.41E+01
Es-253	2.11E+06	5.71E-05	9.61E+08	8.24E+03
Es-254	2.16E+05	5.83E-06	9.52E+07	8.16E+02
Es-254m	1.49E+03	4.02E-08	6.88E+05	5.90E+00

Nuclide	Air Immersion DCS (Bq/m³)	Air Immersion DCS (μCi/cm³)	Water Submersion DCS (Bq/m³)	Water Submersion DCS (μCi/m³)
Es-255	6.41E+05	1.73E-05	3.54E+08	3.03E+03
Es-256	7.32E+04	1.98E-06	5.99E+07	5.14E+02
Fm-251	4.99E+03	1.35E-07	2.26E+06	1.94E+01
Fm-252	1.85E+06	5.01E-05	8.39E+08	7.19E+03
Fm-253	1.37E+04	3.69E-07	6.16E+06	5.28E+01
Fm-254	9.14E+04	2.47E-06	4.23E+07	3.62E+02
Fm-255	3.35E+05	9.05E-06	1.47E+08	1.26E+03
Fm-256	5.22E+01	1.41E-09	2.42E+04	2.07E-01
Fm-257	5.27E+03	1.42E-07	2.40E+06	2.06E+01

Table D-4 Ground Shine DCS

Nuclide	Ground Shine DCS (Bq/m²)	Ground Shine DCS (μCi/m²)
Be-7	6.66E+05	5.71E-12
Be-10	9.22E+06	7.90E-11
C-10	1.80E+04	1.54E-13
C-11	3.17E+04	2.72E-13
C-14	2.48E+09	2.12E-08
N-13	3.08E+04	2.64E-13
N-16	9.22E+03	7.90E-14
O-14	1.05E+04	8.97E-14
O-15	2.96E+04	2.54E-13
O-19	3.08E+04	2.64E-13
F-17	2.96E+04	2.54E-13
F-18	3.34E+04	2.86E-13
Ne-19	2.91E+04	2.49E-13
Ne-24	5.16E+04	4.42E-13
Na-22	1.55E+04	1.33E-13
Na-24	8.83E+03	7.57E-14
Mg-27	3.43E+04	2.94E-13
Mg-28	2.52E+04	2.16E-13
Al-26	1.28E+04	1.10E-13
Al-28	1.85E+04	1.59E-13
Al-29	2.31E+04	1.98E-13
Si-31	4.45E+05	3.81E-12
Si-32	1.10E+09	9.47E-09
P-30	2.81E+04	2.40E-13
P-32	3.72E+05	3.19E-12
P-33	8.71E+08	7.47E-09
S-35	2.38E+09	2.04E-08
S-37	1.28E+04	1.10E-13
S-38	2.09E+04	1.79E-13
Cl-34	2.71E+04	2.32E-13
Cl-34m	1.66E+04	1.42E-13
Cl-36	2.86E+06	2.45E-11
Cl-38	2.26E+04	1.94E-13
Cl-39	2.23E+04	1.91E-13
Cl-40	8.81E+03	7.55E-14
Ar-39	1.26E+07	1.08E-10
Ar-41	2.60E+04	2.23E-13

Nuclide	Ground Shine DCS (Bq/m²)	Ground Shine DCS (μCi/m²)
Ar-42	7.77E+06	6.66E-11
Ar-43	2.09E+04	1.79E-13
Ar-44	1.78E+04	1.53E-13
K-38	1.07E+04	9.15E-14
K-40	1.55E+05	1.33E-12
K-42	7.93E+04	6.79E-13
K-43	3.39E+04	2.91E-13
K-44	1.42E+04	1.22E-13
K-45	1.82E+04	1.56E-13
K-46	1.19E+04	1.02E-13
Ca-45	8.39E+08	7.19E-09
Ca-47	3.20E+04	2.75E-13
Ca-49	1.19E+04	1.02E-13
Sc-42m	7.87E+03	6.74E-14
Sc-43	3.23E+04	2.77E-13
Sc-44	1.52E+04	1.31E-13
Sc-44m	1.24E+05	1.06E-12
Sc-46	1.69E+04	1.45E-13
Sc-47	3.17E+05	2.72E-12
Sc-48	1.02E+04	8.74E-14
Sc-49	3.14E+05	2.69E-12
Sc-50	1.02E+04	8.77E-14
Ti-44	2.58E+05	2.21E-12
Ti-45	3.66E+04	3.14E-13
Ti-51	6.98E+04	5.99E-13
Ti-52	1.55E+05	1.33E-12
V-47	3.02E+04	2.59E-13
V-48	1.17E+04	1.00E-13
V-50	2.48E+04	2.12E-13
V-52	2.22E+04	1.90E-13
V-53	2.91E+04	2.49E-13
Cr-48	7.83E+04	6.71E-13
Cr-49	2.96E+04	2.54E-13
Cr-51	1.06E+06	9.09E-12
Cr-55	2.46E+05	2.11E-12
Cr-56	2.14E+05	1.84E-12
Mn-50m	7.09E+03	6.08E-14
Mn-51	2.96E+04	2.54E-13

Nuclide	Ground Shine DCS (Bq/m²)	Ground Shine DCS (μCi/m²)
Mn-52m	1.34E+04	1.15E-13
Mn-52	9.88E+03	8.47E-14
Mn-54	4.02E+04	3.44E-13
Mn-56	1.96E+04	1.68E-13
Mn-57	1.46E+05	1.25E-12
Mn-58m	1.34E+04	1.15E-13
Fe-52	4.47E+04	3.83E-13
Fe-53	2.54E+04	2.17E-13
Fe-53m	1.13E+04	9.67E-14
Fe-55	2.19E+14	1.87E-03
Fe-59	2.88E+04	2.47E-13
Fe-60	1.38E+09	1.19E-08
Fe-61	2.26E+04	1.94E-13
Fe-62	5.42E+04	4.65E-13
Co-54m	8.24E+03	7.06E-14
Co-55	1.65E+04	1.42E-13
Co-56	9.70E+03	8.31E-14
Co-57	2.91E+05	2.49E-12
Co-58	3.44E+04	2.95E-13
Co-58m	4.75E+09	4.07E-08
Co-60	1.38E+04	1.18E-13
Co-60m	7.48E+06	6.41E-11
Co-61	2.33E+05	2.00E-12
Co-62	1.97E+04	1.69E-13
Co-62m	1.23E+04	1.06E-13
Ni-56	1.97E+04	1.69E-13
Ni-57	1.78E+04	1.53E-13
Ni-59	2.14E+09	1.84E-08
Ni-65	5.50E+04	4.71E-13
Ni-66	9.19E+08	7.88E-09
Cu-57	2.33E+04	2.00E-13
Cu-59	2.09E+04	1.79E-13
Cu-60	8.69E+03	7.45E-14
Cu-61	3.89E+04	3.33E-13
Cu-62	2.86E+04	2.45E-13
Cu-64	1.78E+05	1.53E-12
Cu-66	1.47E+05	1.26E-12
Cu-67	3.02E+05	2.59E-12

Nuclide	Ground Shine DCS (Bq/m²)	Ground Shine DCS (μCi/m²)
Cu-69	5.31E+04	4.55E-13
Zn-60	1.99E+04	1.71E-13
Zn-61	1.97E+04	1.69E-13
Zn-62	7.57E+04	6.49E-13
Zn-63	2.73E+04	2.34E-13
Zn-65	5.90E+04	5.06E-13
Zn-69m	7.97E+04	6.83E-13
Zn-69	1.52E+06	1.30E-11
Zn-71m	2.06E+04	1.76E-13
Zn-71	7.57E+04	6.49E-13
Zn-72	2.38E+05	2.04E-12
Ga-64	9.97E+03	8.55E-14
Ga-65	2.64E+04	2.26E-13
Ga-66	1.40E+04	1.20E-13
Ga-67	2.22E+05	1.90E-12
Ga-68	3.18E+04	2.73E-13
Ga-70	3.75E+05	3.22E-12
Ga-72	1.28E+04	1.10E-13
Ga-73	8.55E+04	7.33E-13
Ga-74	1.09E+04	9.37E-14
Ge-66	4.95E+04	4.24E-13
Ge-67	2.16E+04	1.85E-13
Ge-68	8.78E+08	7.53E-09
Ge-69	3.53E+04	3.02E-13
Ge-71	8.66E+08	7.43E-09
Ge-75	4.34E+05	3.72E-12
Ge-77	2.94E+04	2.52E-13
Ge-78	1.19E+05	1.02E-12
As-68	8.78E+03	7.53E-14
As-69	2.60E+04	2.23E-13
As-70	7.85E+03	6.73E-14
As-71	5.83E+04	5.00E-13
As-72	1.76E+04	1.51E-13
As-73	6.17E+06	5.29E-11
As-74	4.25E+04	3.64E-13
As-76	6.18E+04	5.30E-13
As-77	2.38E+06	2.04E-11
As-78	2.38E+04	2.04E-13

Nuclide	Ground Shine DCS (Bq/m²)	Ground Shine DCS (μCi/m²)
As-79	2.30E+05	1.97E-12
Se-70	4.56E+04	3.90E-13
Se-71	1.91E+04	1.64E-13
Se-72	1.30E+06	1.12E-11
Se-73	2.94E+04	2.52E-13
Se-73m	1.19E+05	1.02E-12
Se-75	8.91E+04	7.63E-13
Se-77m	4.02E+05	3.45E-12
Se-79	2.19E+09	1.87E-08
Se-79m	3.70E+06	3.17E-11
Se-81	3.95E+05	3.39E-12
Se-81m	2.50E+06	2.14E-11
Se-83	1.29E+04	1.11E-13
Se-83m	3.05E+04	2.61E-13
Se-84	6.85E+04	5.87E-13
Br-72	1.06E+04	9.09E-14
Br-73	2.10E+04	1.80E-13
Br-74	7.73E+03	6.63E-14
Br-74m	8.24E+03	7.06E-14
Br-75	2.64E+04	2.26E-13
Br-76	1.23E+04	1.05E-13
Br-76m	9.82E+05	8.41E-12
Br-77	1.06E+05	9.09E-13
Br-77m	2.31E+06	1.98E-11
Br-78	2.86E+04	2.45E-13
Br-80	1.98E+05	1.70E-12
Br-80m	2.30E+06	1.97E-11
Br-82	1.28E+04	1.10E-13
Br-82m	4.75E+06	4.07E-11
Br-83	1.10E+06	9.44E-12
Br-84	1.92E+04	1.65E-13
Br-84m	1.19E+04	1.02E-13
Br-85	1.73E+05	1.49E-12
Kr-74	2.96E+04	2.54E-13
Kr-75	2.31E+04	1.98E-13
Kr-76	8.01E+04	6.86E-13
Kr-77	2.99E+04	2.56E-13
Kr-79	1.34E+05	1.15E-12

Nuclide	Ground Shine DCS (Bq/m²)	Ground Shine DCS (μCi/m²)
Kr-81	2.02E+07	1.73E-10
Kr-81m	2.69E+05	2.30E-12
Kr-83m	9.73E+07	8.34E-10
Kr-85	3.02E+06	2.59E-11
Kr-85m	2.03E+05	1.74E-12
Kr-87	3.78E+04	3.24E-13
Kr-88	1.84E+04	1.58E-13
Kr-89	1.72E+04	1.48E-13
Rb-77	1.96E+04	1.68E-13
Rb-78	8.64E+03	7.40E-14
Rb-78m	1.02E+04	8.74E-14
Rb-79	2.17E+04	1.86E-13
Rb-80	2.38E+04	2.04E-13
Rb-81	6.47E+04	5.55E-13
Rb-81m	1.30E+06	1.12E-11
Rb-82	2.62E+04	2.25E-13
Rb-82m	1.16E+04	9.92E-14
Rb-83	6.83E+04	5.86E-13
Rb-84	3.64E+04	3.12E-13
Rb-84m	8.86E+04	7.59E-13
Rb-86	1.92E+05	1.65E-12
Rb-86m	6.06E+04	5.20E-13
Rb-87	4.02E+08	3.44E-09
Rb-88	4.24E+04	3.63E-13
Rb-89	1.50E+04	1.28E-13
Rb-90	1.72E+04	1.48E-13
Rb-90m	1.07E+04	9.21E-14
Sr-79	2.44E+04	2.09E-13
Sr-80	7.68E+04	6.58E-13
Sr-81	2.22E+04	1.90E-13
Sr-82	2.09E+07	1.79E-10
Sr-83	4.07E+04	3.48E-13
Sr-85	6.72E+04	5.76E-13
Sr-85m	1.59E+05	1.36E-12
Sr-87m	1.05E+05	8.97E-13
Sr-89	4.61E+05	3.95E-12
Sr-90	1.93E+07	1.66E-10
Sr-91	4.31E+04	3.70E-13

Nuclide	Ground Shine DCS (Bq/m²)	Ground Shine DCS (μCi/m²)
Sr-92	2.60E+04	2.23E-13
Sr-93	1.46E+04	1.25E-13
Sr-94	2.26E+04	1.94E-13
Y-81	2.46E+04	2.11E-13
Y-83	2.25E+04	1.93E-13
Y-83m	3.60E+04	3.09E-13
Y-84m	8.21E+03	7.04E-14
Y-85	2.91E+04	2.49E-13
Y-85m	2.46E+04	2.11E-13
Y-86	9.58E+03	8.21E-14
Y-86m	1.56E+05	1.34E-12
Y-87	7.55E+04	6.47E-13
Y-87m	1.09E+05	9.34E-13
Y-88	1.32E+04	1.13E-13
Y-89m	3.73E+04	3.20E-13
Y-90	2.88E+05	2.47E-12
Y-90m	5.27E+04	4.51E-13
Y-91	4.27E+05	3.66E-12
Y-91m	6.24E+04	5.35E-13
Y-92	8.28E+04	7.10E-13
Y-93	1.46E+05	1.25E-12
Y-94	3.56E+04	3.05E-13
Y-95	2.91E+04	2.49E-13
Zr-85	2.06E+04	1.76E-13
Zr-86	1.21E+05	1.03E-12
Zr-87	3.23E+04	2.77E-13
Zr-88	8.66E+04	7.43E-13
Zr-89	2.88E+04	2.47E-13
Zr-89m	5.25E+04	4.50E-13
Zr-95	4.56E+04	3.90E-13
Zr-97	3.45E+04	2.96E-13
Nb-87	2.40E+04	2.06E-13
Nb-88	7.72E+03	6.61E-14
Nb-88m	7.95E+03	6.81E-14
Nb-89	2.31E+04	1.98E-13
Nb-89m	2.37E+04	2.03E-13
Nb-90	8.39E+03	7.19E-14
Nb-91	6.69E+06	5.73E-11

Nuclide	Ground Shine DCS (Bq/m²)	Ground Shine DCS (μCi/m²)
Nb-91m	1.21E+06	1.04E-11
Nb-92	2.23E+04	1.91E-13
Nb-92m	3.51E+04	3.01E-13
Nb-93m	4.64E+07	3.98E-10
Nb-94	2.14E+04	1.84E-13
Nb-94m	4.55E+06	3.90E-11
Nb-95	4.37E+04	3.74E-13
Nb-95m	5.07E+05	4.35E-12
Nb-96	1.36E+04	1.17E-13
Nb-97	4.65E+04	3.98E-13
Nb-98m	1.17E+04	1.00E-13
Nb-99	1.03E+05	8.82E-13
Nb-99m	3.95E+04	3.38E-13
Mo-89	2.37E+04	2.03E-13
Mo-90	4.05E+04	3.47E-13
Mo-91	2.94E+04	2.52E-13
Mo-91m	2.33E+04	2.00E-13
Mo-93	8.28E+06	7.10E-11
Mo-93m	1.49E+04	1.28E-13
Mo-99	1.79E+05	1.54E-12
Mo-101	2.26E+04	1.94E-13
Mo-102	7.19E+05	6.16E-12
Tc-91	1.32E+04	1.13E-13
Tc-91m	2.07E+04	1.78E-13
Tc-92	8.55E+03	7.33E-14
Tc-93	2.23E+04	1.91E-13
Tc-93m	3.82E+04	3.27E-13
Tc-94	1.26E+04	1.08E-13
Tc-94m	1.66E+04	1.42E-13
Tc-95	4.24E+04	3.63E-13
Tc-95m	4.93E+04	4.23E-13
Tc-96	1.34E+04	1.15E-13
Tc-96m	7.62E+05	6.53E-12
Tc-97	6.95E+06	5.96E-11
Tc-97m	7.26E+06	6.22E-11
Tc-98	2.37E+04	2.03E-13
Tc-99	4.84E+08	4.15E-09
Tc-99m	2.78E+05	2.38E-12

Nuclide	Ground Shine DCS (Bq/m²)	Ground Shine DCS (μCi/m²)
Tc-101	8.66E+04	7.43E-13
Tc-102	1.22E+05	1.05E-12
Tc-102m	1.36E+04	1.16E-13
Tc-104	1.46E+04	1.25E-13
Tc-105	3.65E+04	3.13E-13
Ru-92	1.59E+04	1.36E-13
Ru-94	6.54E+04	5.60E-13
Ru-95	2.73E+04	2.34E-13
Ru-97	1.46E+05	1.25E-12
Ru-103	6.69E+04	5.73E-13
Ru-105	4.24E+04	3.63E-13
Ru-107	7.17E+04	6.15E-13
Ru-108	3.02E+05	2.59E-12
Rh-94	8.57E+03	7.34E-14
Rh-95	1.29E+04	1.11E-13
Rh-95m	3.85E+04	3.30E-13
Rh-96	8.41E+03	7.21E-14
Rh-96m	2.56E+04	2.19E-13
Rh-97	2.23E+04	1.91E-13
Rh-97m	1.61E+04	1.38E-13
Rh-98	1.71E+04	1.47E-13
Rh-99	6.06E+04	5.20E-13
Rh-99m	5.22E+04	4.47E-13
Rh-100	1.29E+04	1.10E-13
Rh-100m	6.16E+05	5.28E-12
Rh-101	1.23E+05	1.06E-12
Rh-101m	1.20E+05	1.03E-12
Rh-102	6.42E+04	5.50E-13
Rh-102m	1.56E+04	1.34E-13
Rh-103m	3.84E+07	3.29E-10
Rh-104	2.48E+05	2.12E-12
Rh-104m	9.24E+05	7.92E-12
Rh-105	4.30E+05	3.68E-12
Rh-106	9.16E+04	7.85E-13
Rh-106m	1.18E+04	1.01E-13
Rh-107	9.38E+04	8.04E-13
Rh-108	6.62E+04	5.67E-13
Rh-109	8.11E+04	6.95E-13

Nuclide	Ground Shine DCS (Bq/m²)	Ground Shine DCS (μCi/m²)
Pd-96	2.30E+04	1.97E-13
Pd-97	1.40E+04	1.20E-13
Pd-98	8.30E+04	7.11E-13
Pd-99	2.56E+04	2.19E-13
Pd-100	3.18E+05	2.72E-12
Pd-101	9.88E+04	8.47E-13
Pd-103	4.14E+06	3.55E-11
Pd-109	8.52E+05	7.31E-12
Pd-109m	3.17E+05	2.72E-12
Pd-111	2.17E+05	1.86E-12
Pd-112	1.43E+07	1.22E-10
Pd-114	3.79E+05	3.25E-12
Ag-99	1.39E+04	1.19E-13
Ag-100m	1.13E+04	9.67E-14
Ag-101	2.02E+04	1.73E-13
Ag-102	9.79E+03	8.39E-14
Ag-102m	1.75E+04	1.50E-13
Ag-103	3.94E+04	3.38E-13
Ag-104	1.25E+04	1.07E-13
Ag-104m	1.82E+04	1.56E-13
Ag-105	6.63E+04	5.69E-13
Ag-105m	3.30E+07	2.83E-10
Ag-106	4.36E+04	3.73E-13
Ag-106m	1.21E+04	1.03E-13
Ag-108	3.53E+05	3.03E-12
Ag-108m	2.06E+04	1.76E-13
Ag-109m	4.28E+06	3.67E-11
Ag-110	1.95E+05	1.67E-12
Ag-110m	1.22E+04	1.05E-13
Ag-111	5.99E+05	5.14E-12
Ag-111m	5.48E+06	4.69E-11
Ag-112	4.11E+04	3.52E-13
Ag-113	1.99E+05	1.71E-12
Ag-113m	1.42E+05	1.22E-12
Ag-114	7.36E+04	6.31E-13
Ag-115	5.72E+04	4.91E-13
Ag-116	1.53E+04	1.31E-13
Ag-117	2.48E+04	2.12E-13

Nuclide	Ground Shine DCS (Bq/m²)	Ground Shine DCS (μCi/m²)
Cd-101	1.33E+04	1.14E-13
Cd-102	4.01E+04	3.44E-13
Cd-103	1.66E+04	1.42E-13
Cd-104	1.38E+05	1.19E-12
Cd-105	2.64E+04	2.26E-13
Cd-107	1.39E+06	1.19E-11
Cd-109	1.92E+06	1.65E-11
Cd-111m	1.22E+05	1.05E-12
Cd-113	5.52E+08	4.73E-09
Cd-113m	1.78E+07	1.53E-10
Cd-115	1.53E+05	1.31E-12
Cd-115m	3.11E+05	2.66E-12
Cd-117	3.08E+04	2.64E-13
Cd-117m	1.72E+04	1.48E-13
Cd-118	5.47E+07	4.69E-10
Cd-119	2.03E+04	1.74E-13
Cd-119m	1.47E+04	1.26E-13
In-103	1.19E+04	1.02E-13
In-105	1.67E+04	1.43E-13
In-106m	1.16E+04	9.95E-14
In-106	9.14E+03	7.83E-14
In-107	2.22E+04	1.90E-13
In-108m	1.26E+04	1.08E-13
In-108	8.66E+03	7.43E-14
In-109m	5.41E+04	4.64E-13
In-109	5.34E+04	4.58E-13
In-110m	2.05E+04	1.75E-13
In-110	1.09E+04	9.31E-14
In-111m	6.95E+04	5.96E-13
In-111	8.59E+04	7.36E-13
In-112m	1.13E+06	9.71E-12
In-112	1.16E+05	9.92E-13
In-113m	1.29E+05	1.10E-12
In-114m	4.36E+05	3.73E-12
In-114	3.29E+05	2.82E-12
In-115m	2.09E+05	1.79E-12
In-115	8.48E+07	7.27E-10
In-116m	1.40E+04	1.20E-13

Nuclide	Ground Shine DCS (Bq/m²)	Ground Shine DCS (μCi/m²)
In-117m	2.54E+05	2.17E-12
In-117	4.77E+04	4.09E-13
In-118m	1.20E+04	1.03E-13
In-118	1.26E+05	1.08E-12
In-119m	1.79E+05	1.54E-12
In-119	3.97E+04	3.40E-13
In-121m	1.50E+05	1.28E-12
In-121	3.21E+04	2.75E-13
Sn-106	2.78E+04	2.38E-13
Sn-108	4.95E+04	4.25E-13
Sn-109	1.59E+04	1.37E-13
Sn-110	1.18E+05	1.01E-12
Sn-111	6.63E+04	5.69E-13
Sn-113m	3.40E+06	2.92E-11
Sn-113	1.87E+06	1.60E-11
Sn-117m	2.26E+05	1.94E-12
Sn-119m	3.23E+06	2.77E-11
Sn-121m	8.69E+06	7.45E-11
Sn-121	3.50E+08	3.00E-09
Sn-123m	1.81E+05	1.55E-12
Sn-123	4.84E+05	4.15E-12
Sn-125m	7.50E+04	6.42E-13
Sn-125	7.91E+04	6.78E-13
Sn-126	6.58E+05	5.64E-12
Sn-127m	4.77E+04	4.09E-13
Sn-127	1.76E+04	1.51E-13
Sn-128	5.59E+04	4.79E-13
Sn-129	2.94E+04	2.52E-13
Sn-130m	3.29E+04	2.82E-13
Sn-130	3.45E+04	2.96E-13
Sb-111	2.05E+04	1.75E-13
Sb-113	2.46E+04	2.11E-13
Sb-114	1.21E+04	1.04E-13
Sb-115	3.64E+04	3.12E-13
Sb-116	1.47E+04	1.26E-13
Sb-116m	1.10E+04	9.40E-14
Sb-117	1.91E+05	1.64E-12
Sb-118	3.66E+04	3.13E-13

Nuclide	Ground Shine DCS (Bq/m²)	Ground Shine DCS (μCi/m²)
Sb-118m	1.32E+04	1.13E-13
Sb-119	2.03E+06	1.74E-11
Sb-120	6.79E+04	5.82E-13
Sb-120m	1.39E+04	1.19E-13
Sb-122	6.50E+04	5.57E-13
Sb-122m	5.39E+05	4.62E-12
Sb-124	1.83E+04	1.57E-13
Sb-124m	7.37E+04	6.32E-13
Sb-124n	5.57E+10	4.78E-07
Sb-125	7.66E+04	6.56E-13
Sb-126	1.20E+04	1.03E-13
Sb-126m	2.05E+04	1.75E-13
Sb-127	4.66E+04	4.00E-13
Sb-128	1.06E+04	9.12E-14
Sb-128m	1.65E+04	1.42E-13
Sb-129	2.28E+04	1.96E-13
Sb-130	1.01E+04	8.63E-14
Sb-130m	1.19E+04	1.02E-13
Sb-131	1.62E+04	1.39E-13
Sb-133	1.25E+04	1.07E-13
Te-113	1.43E+04	1.22E-13
Te-114	2.69E+04	2.30E-13
Te-115	1.45E+04	1.25E-13
Te-115m	1.28E+04	1.10E-13
Te-116	3.27E+05	2.80E-12
Te-117	2.19E+04	1.87E-13
Te-118	2.23E+06	1.91E-11
Te-119	4.40E+04	3.77E-13
Te-119m	2.30E+04	1.97E-13
Te-121	5.80E+04	4.97E-13
Te-121m	1.60E+05	1.37E-12
Te-123	1.28E+09	1.10E-08
Te-123m	2.40E+05	2.06E-12
Te-125m	1.18E+06	1.01E-11
Te-127	3.02E+06	2.59E-11
Te-127m	3.71E+06	3.18E-11
Te-129	2.73E+05	2.34E-12
Te-129m	5.44E+05	4.66E-12

Nuclide	Ground Shine DCS (Bq/m²)	Ground Shine DCS (μCi/m²)
Te-131	6.72E+04	5.76E-13
Te-131m	2.33E+04	2.00E-13
Te-132	1.49E+05	1.28E-12
Te-133	2.69E+04	2.30E-13
Te-133m	1.80E+04	1.54E-13
Te-134	3.84E+04	3.29E-13
I-118	1.52E+04	1.31E-13
I-118m	8.64E+03	7.40E-14
I-119	3.44E+04	2.95E-13
I-120	1.26E+04	1.08E-13
I-120m	9.35E+03	8.02E-14
I-121	8.46E+04	7.25E-13
I-122	3.05E+04	2.61E-13
I-123	2.06E+05	1.76E-12
I-124	3.02E+04	2.59E-13
I-125	9.94E+05	8.52E-12
I-126	7.50E+04	6.42E-13
I-128	2.06E+05	1.76E-12
I-129	1.59E+06	1.37E-11
I-130	1.55E+04	1.33E-13
I-130m	2.64E+05	2.26E-12
I-131	8.69E+04	7.45E-13
I-132	1.45E+04	1.25E-13
I-132m	9.70E+04	8.31E-13
I-133	5.10E+04	4.37E-13
I-134	1.27E+04	1.09E-13
I-134m	1.18E+05	1.01E-12
I-135	2.16E+04	1.85E-13
Xe-120	8.55E+04	7.33E-13
Xe-121	2.26E+04	1.94E-13
Xe-122	5.28E+05	4.52E-12
Xe-123	5.21E+04	4.46E-13
Xe-125	1.28E+05	1.10E-12
Xe-127	1.24E+05	1.06E-12
Xe-127m	2.10E+05	1.80E-12
Xe-129m	7.60E+05	6.52E-12
Xe-131m	1.95E+06	1.67E-11
Xe-133	7.81E+05	6.69E-12

Nuclide	Ground Shine DCS (Bq/m²)	Ground Shine DCS (μCi/m²)
Xe-133m	8.98E+05	7.70E-12
Xe-135	1.27E+05	1.09E-12
Xe-135m	7.64E+04	6.55E-13
Xe-137	9.11E+04	7.81E-13
Xe-138	2.96E+04	2.54E-13
Cs-121	2.48E+04	2.12E-13
Cs-121m	2.54E+04	2.17E-13
Cs-123	2.81E+04	2.40E-13
Cs-124	2.48E+04	2.12E-13
Cs-125	4.21E+04	3.60E-13
Cs-126	2.58E+04	2.21E-13
Cs-127	7.77E+04	6.66E-13
Cs-128	3.35E+04	2.87E-13
Cs-129	1.22E+05	1.05E-12
Cs-130	6.04E+04	5.18E-13
Cs-130m	5.07E+05	4.34E-12
Cs-131	1.76E+06	1.51E-11
Cs-132	4.68E+04	4.01E-13
Cs-134	2.14E+04	1.84E-13
Cs-134m	1.41E+06	1.21E-11
Cs-135	6.27E+08	5.37E-09
Cs-135m	2.09E+04	1.79E-13
Cs-136	1.59E+04	1.37E-13
Cs-137	1.01E+07	8.68E-11
Cs-138	1.40E+04	1.20E-13
Cs-138m	7.79E+04	6.68E-13
Cs-139	7.32E+04	6.28E-13
Cs-140	1.82E+04	1.56E-13
Ba-124	5.73E+04	4.91E-13
Ba-126	5.87E+04	5.03E-13
Ba-127	4.21E+04	3.60E-13
Ba-128	5.41E+05	4.64E-12
Ba-129	9.82E+04	8.41E-13
Ba-129m	2.16E+04	1.85E-13
Ba-131	7.13E+04	6.11E-13
Ba-131m	4.71E+05	4.04E-12
Ba-133	8.50E+04	7.29E-13
Ba-133m	5.22E+05	4.47E-12

Nuclide	Ground Shine DCS (Bq/m²)	Ground Shine DCS (μCi/m²)
Ba-135m	5.89E+05	5.05E-12
Ba-137m	5.50E+04	4.71E-13
Ba-139	2.13E+05	1.82E-12
Ba-140	1.66E+05	1.42E-12
Ba-141	3.28E+04	2.81E-13
Ba-142	3.14E+04	2.69E-13
La-128	1.14E+04	9.74E-14
La-129	3.37E+04	2.89E-13
La-130	1.44E+04	1.24E-13
La-131	4.92E+04	4.22E-13
La-132	1.68E+04	1.44E-13
La-132m	4.99E+04	4.27E-13
La-133	2.10E+05	1.80E-12
La-134	4.10E+04	3.52E-13
La-135	1.04E+06	8.91E-12
La-136	7.51E+04	6.44E-13
La-137	1.58E+06	1.35E-11
La-138	2.83E+04	2.43E-13
La-140	1.47E+04	1.26E-13
La-141	2.26E+05	1.94E-12
La-142	1.47E+04	1.26E-13
La-143	8.43E+04	7.23E-13
Ce-130	6.82E+04	5.84E-13
Ce-131	2.01E+04	1.72E-13
Ce-132	1.27E+05	1.09E-12
Ce-133	5.78E+04	4.95E-13
Ce-133m	1.97E+04	1.69E-13
Ce-134	1.38E+06	1.18E-11
Ce-135	4.09E+04	3.51E-13
Ce-137	9.76E+05	8.36E-12
Ce-137m	6.38E+05	5.47E-12
Ce-139	2.22E+05	1.90E-12
Ce-141	4.55E+05	3.90E-12
Ce-143	1.06E+05	9.09E-13
Ce-144	1.83E+06	1.57E-11
Ce-145	3.77E+04	3.24E-13
Pr-134	1.03E+04	8.82E-14
Pr-134m	1.38E+04	1.19E-13

Nuclide	Ground Shine DCS (Bq/m²)	Ground Shine DCS (μCi/m²)
Pr-135	3.57E+04	3.06E-13
Pr-136	1.52E+04	1.31E-13
Pr-137	8.55E+04	7.33E-13
Pr-138	3.52E+04	3.02E-13
Pr-138m	1.35E+04	1.16E-13
Pr-139	2.56E+05	2.19E-12
Pr-140	5.41E+04	4.64E-13
Pr-142	2.16E+05	1.85E-12
Pr-143	1.52E+06	1.31E-11
Pr-144	1.97E+05	1.69E-12
Pr-144m	2.91E+06	2.49E-11
Pr-145	3.21E+05	2.75E-12
Pr-146	2.99E+04	2.56E-13
Pr-147	5.77E+04	4.94E-13
Pr-148	2.96E+04	2.54E-13
Pr-148m	3.02E+04	2.59E-13
Nd-134	6.04E+04	5.18E-13
Nd-135	2.44E+04	2.09E-13
Nd-136	1.22E+05	1.05E-12
Nd-137	2.81E+04	2.40E-13
Nd-138	8.34E+05	7.15E-12
Nd-139	7.16E+04	6.13E-13
Nd-139m	2.14E+04	1.84E-13
Nd-140	1.33E+06	1.14E-11
Nd-141	4.57E+05	3.92E-12
Nd-141m	4.75E+04	4.07E-13
Nd-147	2.26E+05	1.94E-12
Nd-149	8.05E+04	6.90E-13
Nd-151	3.70E+04	3.17E-13
Nd-152	1.81E+05	1.55E-12
Pm-136	1.14E+04	9.81E-14
Pm-137m	1.77E+04	1.52E-13
Pm-139	3.17E+04	2.72E-13
Pm-140	2.69E+04	2.30E-13
Pm-140m	1.07E+04	9.15E-14
Pm-141	4.17E+04	3.58E-13
Pm-142	3.35E+04	2.87E-13
Pm-143	1.07E+05	9.15E-13

Nuclide	Ground Shine DCS (Bq/m²)	Ground Shine DCS (μCi/m²)
Pm-144	2.13E+04	1.82E-13
Pm-145	1.20E+06	1.03E-11
Pm-146	4.42E+04	3.79E-13
Pm-147	1.13E+09	9.67E-09
Pm-148	5.19E+04	4.45E-13
Pm-148m	1.67E+04	1.43E-13
Pm-149	7.66E+05	6.56E-12
Pm-150	2.20E+04	1.89E-13
Pm-151	9.76E+04	8.36E-13
Pm-152	7.85E+04	6.73E-13
Pm-152m	2.11E+04	1.81E-13
Pm-153	2.14E+05	1.84E-12
Pm-154	1.87E+04	1.60E-13
Pm-154m	1.81E+04	1.55E-13
Sm-139	2.14E+04	1.84E-13
Sm-140	5.80E+04	4.97E-13
Sm-141	2.26E+04	1.94E-13
Sm-141m	1.70E+04	1.46E-13
Sm-142	2.99E+05	2.56E-12
Sm-143	5.65E+04	4.84E-13
Sm-143m	4.80E+04	4.12E-13
Sm-145	5.81E+05	4.98E-12
Sm-151	8.32E+09	7.13E-08
Sm-153	5.07E+05	4.35E-12
Sm-155	2.05E+05	1.75E-12
Sm-156	2.96E+05	2.54E-12
Sm-157	6.57E+04	5.63E-13
Eu-142	2.33E+04	2.00E-13
Eu-142m	9.33E+03	7.99E-14
Eu-143	2.69E+04	2.30E-13
Eu-144	2.62E+04	2.25E-13
Eu-145	2.69E+04	2.30E-13
Eu-146	1.42E+04	1.21E-13
Eu-147	7.24E+04	6.20E-13
Eu-148	1.51E+04	1.29E-13
Eu-149	5.42E+05	4.65E-12
Eu-150	2.16E+04	1.85E-13
Eu-150m	4.52E+05	3.88E-12

Nuclide	Ground Shine DCS (Bq/m²)	Ground Shine DCS (μCi/m²)
Eu-152	2.91E+04	2.49E-13
Eu-152m	9.44E+04	8.09E-13
Eu-152n	4.88E+05	4.18E-12
Eu-154	2.71E+04	2.32E-13
Eu-154m	5.30E+05	4.54E-12
Eu-155	5.88E+05	5.04E-12
Eu-156	2.73E+04	2.34E-13
Eu-157	1.04E+05	8.91E-13
Eu-158	2.44E+04	2.09E-13
Eu-159	8.34E+04	7.15E-13
Gd-142	2.99E+04	2.56E-13
Gd-143m	1.51E+04	1.29E-13
Gd-144	3.53E+04	3.03E-13
Gd-145	1.45E+04	1.24E-13
Gd-145m	4.75E+04	4.07E-13
Gd-146	1.42E+05	1.21E-12
Gd-147	2.42E+04	2.07E-13
Gd-149	6.42E+04	5.50E-13
Gd-151	5.14E+05	4.40E-12
Gd-153	3.44E+05	2.95E-12
Gd-159	4.55E+05	3.90E-12
Gd-162	7.59E+04	6.50E-13
Tb-146	9.27E+03	7.95E-14
Tb-147	1.55E+04	1.33E-13
Tb-147m	1.79E+04	1.54E-13
Tb-148	1.40E+04	1.20E-13
Tb-148m	1.06E+04	9.06E-14
Tb-149	2.52E+04	2.16E-13
Tb-149m	2.38E+04	2.04E-13
Tb-150	1.43E+04	1.23E-13
Tb-150m	1.32E+04	1.13E-13
Tb-151	3.41E+04	2.92E-13
Tb-151m	4.34E+05	3.72E-12
Tb-152	2.28E+04	1.96E-13
Tb-152m	4.44E+04	3.81E-13
Tb-153	1.04E+05	8.91E-13
Tb-154	1.57E+04	1.35E-13
Tb-155	1.99E+05	1.71E-12

Nuclide	Ground Shine DCS (Bq/m²)	Ground Shine DCS (μCi/m²)
Tb-156	1.77E+04	1.52E-13
Tb-156m	9.70E+05	8.31E-12
Tb-156n	9.88E+06	8.47E-11
Tb-157	7.85E+06	6.73E-11
Tb-158	4.21E+04	3.61E-13
Tb-160	2.99E+04	2.56E-13
Tb-161	1.05E+06	8.97E-12
Tb-162	2.91E+04	2.49E-13
Tb-163	4.10E+04	3.51E-13
Tb-164	1.35E+04	1.16E-13
Tb-165	3.67E+04	3.15E-13
Dy-148	4.66E+04	3.99E-13
Dy-149	2.13E+04	1.82E-13
Dy-150	1.21E+05	1.03E-12
Dy-151	2.50E+04	2.14E-13
Dy-152	1.20E+05	1.03E-12
Dy-153	3.94E+04	3.38E-13
Dy-155	5.13E+04	4.40E-13
Dy-157	9.79E+04	8.39E-13
Dy-159	8.11E+05	6.95E-12
Dy-165	4.57E+05	3.92E-12
Dy-165m	1.85E+06	1.59E-11
Dy-166	8.43E+05	7.23E-12
Dy-167	5.46E+04	4.68E-13
Dy-168	7.91E+04	6.78E-13
Ho-150	1.61E+04	1.38E-13
Ho-153	3.08E+04	2.64E-13
Ho-153m	2.96E+04	2.54E-13
Ho-154	1.69E+04	1.45E-13
Ho-154m	1.34E+04	1.15E-13
Ho-155	5.38E+04	4.61E-13
Ho-156	1.59E+04	1.36E-13
Ho-157	5.82E+04	4.99E-13
Ho-159	9.01E+04	7.72E-13
Ho-160	1.99E+04	1.71E-13
Ho-161	6.55E+05	5.61E-12
Ho-162	2.10E+05	1.80E-12
Ho-162m	6.16E+04	5.28E-13

Nuclide	Ground Shine DCS (Bq/m²)	Ground Shine DCS (μCi/m²)
Ho-164	9.44E+05	8.09E-12
Ho-164m	8.21E+05	7.04E-12
Ho-166	2.99E+05	2.56E-12
Ho-166m	2.07E+04	1.78E-13
Ho-167	9.01E+04	7.72E-13
Ho-168	3.46E+04	2.96E-13
Ho-168m	5.85E+06	5.01E-11
Ho-170	1.89E+04	1.62E-13
Er-154	4.72E+05	4.04E-12
Er-156	5.59E+05	4.79E-12
Er-159	3.53E+04	3.03E-13
Er-161	3.43E+04	2.94E-13
Er-163	9.14E+05	7.83E-12
Er-165	9.76E+05	8.36E-12
Er-167m	3.60E+05	3.08E-12
Er-169	4.54E+08	3.89E-09
Er-171	8.41E+04	7.21E-13
Er-172	6.47E+04	5.55E-13
Er-173	3.74E+04	3.21E-13
Tm-161	2.66E+04	2.28E-13
Tm-162	1.78E+04	1.53E-13
Tm-163	2.64E+04	2.26E-13
Tm-164	4.04E+04	3.47E-13
Tm-165	6.06E+04	5.20E-13
Tm-166	1.77E+04	1.52E-13
Tm-167	2.38E+05	2.04E-12
Tm-168	2.71E+04	2.32E-13
Tm-170	1.27E+06	1.09E-11
Tm-171	5.97E+07	5.12E-10
Tm-172	6.55E+04	5.61E-13
Tm-173	8.21E+04	7.04E-13
Tm-174	1.87E+04	1.60E-13
Tm-175	2.96E+04	2.54E-13
Tm-176	1.70E+04	1.45E-13
Yb-162	1.38E+05	1.18E-12
Yb-163	4.50E+04	3.86E-13
Yb-164	6.65E+05	5.70E-12
Yb-165	1.01E+05	8.68E-13

Nuclide	Ground Shine DCS (Bq/m²)	Ground Shine DCS (μCi/m²)
Yb-166	4.23E+05	3.63E-12
Yb-167	1.33E+05	1.14E-12
Yb-169	1.07E+05	9.21E-13
Yb-175	8.59E+05	7.36E-12
Yb-177	1.42E+05	1.22E-12
Yb-178	8.11E+05	6.95E-12
Yb-179	3.14E+04	2.69E-13
Lu-165	2.99E+04	2.56E-13
Lu-167	2.07E+04	1.78E-13
Lu-169	2.64E+04	2.26E-13
Lu-169m	3.38E+09	2.90E-08
Lu-170	1.40E+04	1.20E-13
Lu-171	5.22E+04	4.48E-13
Lu-171m	1.10E+08	9.40E-10
Lu-172	1.74E+04	1.49E-13
Lu-172m	6.97E+09	5.97E-08
Lu-173	1.93E+05	1.66E-12
Lu-174	3.08E+05	2.64E-12
Lu-174m	6.10E+05	5.23E-12
Lu-176	7.09E+04	6.08E-13
Lu-176m	5.64E+05	4.84E-12
Lu-177	9.88E+05	8.47E-12
Lu-177m	3.42E+04	2.93E-13
Lu-178	1.59E+05	1.36E-12
Lu-178m	3.14E+04	2.69E-13
Lu-179	3.98E+05	3.41E-12
Lu-180	2.17E+04	1.86E-13
Lu-181	5.04E+04	4.32E-13
Hf-167	4.96E+04	4.25E-13
Hf-169	5.10E+04	4.37E-13
Hf-170	7.75E+04	6.64E-13
Hf-172	3.56E+05	3.05E-12
Hf-173	8.74E+04	7.49E-13
Hf-175	9.64E+04	8.26E-13
Hf-177m	1.49E+04	1.28E-13
Hf-178m	1.50E+04	1.29E-13
Hf-179m	3.69E+04	3.16E-13
Hf-180m	3.41E+04	2.93E-13

Nuclide	Ground Shine DCS (Bq/m²)	Ground Shine DCS (μCi/m²)
Hf-181	6.32E+04	5.41E-13
Hf-182	1.42E+05	1.22E-12
Hf-182m	3.69E+04	3.16E-13
Hf-183	4.10E+04	3.52E-13
Hf-184	1.34E+05	1.15E-12
Ta-170	2.78E+04	2.38E-13
Ta-172	1.96E+04	1.68E-13
Ta-173	5.85E+04	5.01E-13
Ta-174	3.38E+04	2.90E-13
Ta-175	3.14E+04	2.69E-13
Ta-176	1.59E+04	1.36E-13
Ta-177	5.38E+05	4.61E-12
Ta-178	2.91E+05	2.49E-12
Ta-178m	2.94E+04	2.52E-13
Ta-179	1.50E+06	1.28E-11
Ta-180	7.59E+05	6.50E-12
Ta-182	2.66E+04	2.28E-13
Ta-182m	1.34E+05	1.15E-12
Ta-183	1.17E+05	1.01E-12
Ta-184	2.10E+04	1.80E-13
Ta-185	1.47E+05	1.26E-12
Ta-186	2.19E+04	1.87E-13
W-177	3.73E+04	3.20E-13
W-178	2.48E+06	2.12E-11
W-179	6.98E+05	5.99E-12
W-179m	6.50E+05	5.57E-12
W-181	9.33E+05	7.99E-12
W-185	1.90E+08	1.63E-09
W-185m	1.47E+06	1.26E-11
W-187	7.19E+04	6.16E-13
W-188	1.75E+07	1.50E-10
W-190	2.06E+05	1.76E-12
Re-178	2.01E+04	1.72E-13
Re-179	3.17E+04	2.72E-13
Re-180	2.81E+04	2.40E-13
Re-181	4.23E+04	3.62E-13
Re-182	1.92E+04	1.65E-13
Re-182m	2.83E+04	2.43E-13

Nuclide	Ground Shine DCS (Bq/m²)	Ground Shine DCS (μCi/m²)
Re-183	2.31E+05	1.98E-12
Re-184	3.80E+04	3.25E-13
Re-184m	9.01E+04	7.72E-13
Re-186	7.31E+05	6.26E-12
Re-186m	2.42E+06	2.07E-11
Re-188	2.14E+05	1.84E-12
Re-188m	5.34E+05	4.58E-12
Re-189	4.44E+05	3.81E-12
Re-190	2.37E+04	2.03E-13
Re-190m	3.47E+04	2.98E-13
Os-180	2.83E+05	2.43E-12
Os-181	2.50E+04	2.14E-13
Os-182	7.89E+04	6.76E-13
Os-183	5.44E+04	4.66E-13
Os-183m	3.41E+04	2.92E-13
Os-185	4.85E+04	4.16E-13
Os-189m	7.87E+08	6.74E-09
Os-190m	2.10E+04	1.80E-13
Os-191	4.46E+05	3.82E-12
Os-191m	6.29E+06	5.39E-11
Os-193	3.52E+05	3.01E-12
Os-194	1.43E+07	1.23E-10
Os-196	3.02E+05	2.59E-12
Ir-180	1.96E+04	1.68E-13
Ir-182	2.23E+04	1.91E-13
Ir-183	2.91E+04	2.49E-13
Ir-184	1.72E+04	1.48E-13
Ir-185	4.13E+04	3.54E-13
Ir-186	2.07E+04	1.78E-13
Ir-186m	2.76E+04	2.36E-13
Ir-187	1.04E+05	8.88E-13
Ir-188	1.70E+04	1.46E-13
Ir-189	4.70E+05	4.03E-12
Ir-190	2.26E+04	1.94E-13
Ir-190m	7.16E+08	6.13E-09
Ir-190n	6.51E+05	5.58E-12
Ir-191m	4.95E+05	4.25E-12
Ir-192	4.09E+04	3.51E-13

Nuclide	Ground Shine DCS (Bq/m²)	Ground Shine DCS (μCi/m²)
Ir-192m	1.49E+08	1.28E-09
Ir-192n	3.73E+07	3.20E-10
Ir-193m	9.97E+07	8.55E-10
Ir-194	1.75E+05	1.50E-12
Ir-194m	1.43E+04	1.22E-13
Ir-195	4.30E+05	3.68E-12
Ir-195m	8.81E+04	7.55E-13
Ir-196	9.11E+04	7.81E-13
Ir-196m	1.34E+04	1.15E-13
Pt-184	4.75E+04	4.07E-13
Pt-186	4.93E+04	4.23E-13
Pt-187	5.50E+04	4.71E-13
Pt-188	1.72E+05	1.48E-12
Pt-189	7.06E+04	6.05E-13
Pt-191	1.17E+05	1.01E-12
Pt-193	2.96E+08	2.54E-09
Pt-193m	3.50E+06	3.00E-11
Pt-195m	5.11E+05	4.38E-12
Pt-197	1.31E+06	1.12E-11
Pt-197m	4.36E+05	3.74E-12
Pt-199	1.29E+05	1.10E-12
Pt-200	5.87E+05	5.03E-12
Pt-202	4.07E+05	3.49E-12
Au-186	2.11E+04	1.81E-13
Au-187	3.25E+04	2.79E-13
Au-190	1.50E+04	1.29E-13
Au-191	5.72E+04	4.91E-13
Au-192	1.83E+04	1.57E-13
Au-193	2.13E+05	1.82E-12
Au-193m	1.76E+05	1.51E-12
Au-194	3.36E+04	2.88E-13
Au-195	4.58E+05	3.92E-12
Au-195m	1.72E+05	1.48E-12
Au-196	7.16E+04	6.13E-13
Au-196m	1.47E+05	1.26E-12
Au-198	7.83E+04	6.71E-13
Au-198m	6.58E+04	5.64E-13
Au-199	3.68E+05	3.16E-12

Nuclide	Ground Shine DCS (Bq/m²)	Ground Shine DCS (μCi/m²)
Au-200	9.41E+04	8.06E-13
Au-200m	1.69E+04	1.45E-13
Au-201	4.34E+05	3.72E-12
Au-202	1.13E+05	9.67E-13
Hg-190	1.79E+05	1.54E-12
Hg-191m	2.30E+04	1.97E-13
Hg-192	1.28E+05	1.10E-12
Hg-193	4.15E+04	3.55E-13
Hg-193m	3.34E+04	2.87E-13
Hg-194	1.96E+08	1.68E-09
Hg-195	1.75E+05	1.50E-12
Hg-195m	1.73E+05	1.49E-12
Hg-197	5.21E+05	4.46E-12
Hg-197m	3.78E+05	3.24E-12
Hg-199m	1.93E+05	1.66E-12
Hg-203	1.43E+05	1.22E-12
Hg-205	4.83E+05	4.14E-12
Hg-206	2.13E+05	1.82E-12
Hg-207	1.27E+04	1.09E-13
Tl-190	2.33E+04	2.00E-13
Tl-190m	1.32E+04	1.13E-13
Tl-194	3.43E+04	2.94E-13
Tl-194m	1.32E+04	1.13E-13
Tl-195	2.86E+04	2.45E-13
Tl-196	1.84E+04	1.58E-13
Tl-197	7.51E+04	6.44E-13
Tl-198	1.74E+04	1.49E-13
Tl-198m	2.76E+04	2.36E-13
Tl-199	1.38E+05	1.19E-12
Tl-200	2.60E+04	2.23E-13
Tl-201	4.00E+05	3.43E-12
Tl-202	7.26E+04	6.22E-13
Tl-204	2.91E+06	2.49E-11
Tl-206	5.18E+05	4.44E-12
Tl-206m	1.38E+04	1.19E-13
Tl-207	5.65E+05	4.84E-12
Tl-208	1.07E+04	9.18E-14
Tl-209	1.57E+04	1.35E-13

Nuclide	Ground Shine DCS (Bq/m²)	Ground Shine DCS (μCi/m²)
Tl-210	1.20E+04	1.03E-13
Pb-194	3.19E+04	2.73E-13
Pb-195m	2.02E+04	1.73E-13
Pb-196	6.92E+04	5.93E-13
Pb-197	2.26E+04	1.94E-13
Pb-197m	2.88E+04	2.47E-13
Pb-198	7.83E+04	6.71E-13
Pb-199	3.32E+04	2.85E-13
Pb-200	1.71E+05	1.47E-12
Pb-201	4.50E+04	3.85E-13
Pb-201m	8.37E+04	7.17E-13
Pb-202	1.69E+08	1.45E-09
Pb-202m	1.68E+04	1.44E-13
Pb-203	1.10E+05	9.47E-13
Pb-204m	1.62E+04	1.39E-13
Pb-205	1.67E+08	1.43E-09
Pb-209	9.94E+06	8.52E-11
Pb-210	1.46E+07	1.25E-10
Pb-211	2.94E+05	2.52E-12
Pb-212	2.40E+05	2.06E-12
Pb-214	1.30E+05	1.12E-12
Bi-197	1.98E+04	1.70E-13
Bi-200	1.37E+04	1.18E-13
Bi-201	2.01E+04	1.72E-13
Bi-202	1.23E+04	1.05E-13
Bi-203	1.46E+04	1.25E-13
Bi-204	1.17E+04	1.00E-13
Bi-205	2.07E+04	1.78E-13
Bi-206	1.04E+04	8.91E-14
Bi-207	2.19E+04	1.87E-13
Bi-208	1.43E+04	1.23E-13
Bi-210	9.03E+05	7.74E-12
Bi-210m	1.30E+05	1.11E-12
Bi-211	7.13E+05	6.11E-12
Bi-212	2.06E+05	1.76E-12
Bi-212n	5.26E+05	4.51E-12
Bi-213	1.93E+05	1.66E-12
Bi-214	2.23E+04	1.91E-13

Nuclide	Ground Shine DCS (Bq/m²)	Ground Shine DCS (μCi/m²)
Bi-215	1.03E+05	8.85E-13
Bi-216	3.75E+04	3.21E-13
Po-203	2.09E+04	1.79E-13
Po-204	2.94E+04	2.52E-13
Po-205	2.16E+04	1.85E-13
Po-206	2.86E+04	2.45E-13
Po-207	2.64E+04	2.26E-13
Po-208	1.59E+09	1.36E-08
Po-209	5.50E+06	4.71E-11
Po-210	3.44E+09	2.95E-08
Po-211	4.09E+06	3.50E-11
Po-212m	4.69E+05	4.02E-12
Po-213	8.88E+08	7.61E-09
Po-214	4.03E+08	3.45E-09
Po-215	1.89E+08	1.62E-09
Po-216	2.19E+09	1.87E-08
Po-218	4.77E+12	4.09E-05
At-204	1.41E+04	1.21E-13
At-205	2.91E+04	2.49E-13
At-206	1.34E+04	1.15E-13
At-207	1.71E+04	1.47E-13
At-208	1.12E+04	9.60E-14
At-209	1.47E+04	1.26E-13
At-210	1.17E+04	1.01E-13
At-211	1.04E+06	8.88E-12
At-215	1.95E+08	1.67E-09
At-216	1.45E+07	1.24E-10
At-217	1.40E+08	1.20E-09
At-218	2.54E+08	2.17E-09
At-220	5.79E+04	4.96E-13
Rn-207	3.35E+04	2.87E-13
Rn-209	2.86E+04	2.45E-13
Rn-210	5.55E+05	4.76E-12
Rn-211	1.82E+04	1.56E-13
Rn-212	9.82E+07	8.41E-10
Rn-218	4.38E+07	3.75E-10
Rn-219	5.77E+05	4.94E-12
Rn-220	5.28E+07	4.52E-10

Nuclide	Ground Shine DCS (Bq/m²)	Ground Shine DCS (μCi/m²)
Rn-222	8.52E+07	7.31E-10
Rn-223	8.34E+04	7.15E-13
Fr-212	3.02E+04	2.59E-13
Fr-219	9.41E+06	8.06E-11
Fr-220	3.75E+06	3.22E-11
Fr-221	1.18E+06	1.01E-11
Fr-222	1.34E+05	1.15E-12
Fr-223	4.10E+05	3.52E-12
Fr-224	5.28E+04	4.53E-13
Fr-227	6.30E+04	5.40E-13
Ra-219	1.99E+05	1.71E-12
Ra-220	7.11E+06	6.09E-11
Ra-221	9.70E+05	8.31E-12
Ra-222	3.67E+06	3.14E-11
Ra-223	2.50E+05	2.14E-12
Ra-224	3.30E+06	2.83E-11
Ra-225	2.88E+06	2.47E-11
Ra-226	4.75E+06	4.07E-11
Ra-227	1.88E+05	1.61E-12
Ra-228	4.32E+07	3.70E-10
Ra-230	4.21E+05	3.60E-12
Ac-223	1.96E+06	1.68E-11
Ac-224	1.55E+05	1.33E-12
Ac-225	2.40E+06	2.06E-11
Ac-226	2.31E+05	1.98E-12
Ac-227	1.34E+08	1.15E-09
Ac-228	3.78E+04	3.24E-13
Ac-230	5.37E+04	4.60E-13
Ac-231	7.08E+04	6.07E-13
Ac-232	2.78E+04	2.38E-13
Ac-233	5.52E+04	4.73E-13
Th-223	4.99E+05	4.27E-12
Th-224	1.51E+06	1.29E-11
Th-226	4.40E+06	3.77E-11
Th-227	2.76E+05	2.36E-12
Th-228	1.47E+07	1.26E-10
Th-229	4.09E+05	3.51E-12
Th-230	4.95E+07	4.24E-10

Nuclide	Ground Shine DCS (Bq/m²)	Ground Shine DCS (μCi/m²)
Th-231	2.09E+06	1.79E-11
Th-232	7.00E+07	6.00E-10
Th-233	4.54E+05	3.89E-12
Th-234	3.87E+06	3.32E-11
Th-235	2.44E+05	2.09E-12
Th-236	5.32E+05	4.56E-12
Pa-227	1.76E+06	1.51E-11
Pa-228	2.52E+04	2.16E-13
Pa-229	5.81E+05	4.98E-12
Pa-230	5.10E+04	4.37E-13
Pa-231	9.14E+05	7.83E-12
Pa-232	3.60E+04	3.09E-13
Pa-233	1.57E+05	1.35E-12
Pa-234	2.30E+04	1.97E-13
Pa-234m	2.83E+05	2.43E-12
Pa-235	6.28E+05	5.38E-12
Pa-236	3.45E+04	2.95E-13
Pa-237	4.95E+04	4.25E-13
U-227	2.99E+05	2.56E-12
U-228	8.11E+06	6.95E-11
U-230	2.09E+07	1.79E-10
U-231	4.75E+05	4.07E-12
U-232	4.34E+07	3.72E-10
U-233	6.66E+07	5.71E-10
U-234	5.47E+07	4.69E-10
U-235	2.13E+05	1.82E-12
U-236	6.58E+07	5.64E-10
U-237	2.58E+05	2.21E-12
U-238	8.11E+07	6.95E-10
U-239	3.89E+05	3.33E-12
U-240	5.67E+06	4.86E-11
U-242	4.40E+05	3.77E-12
Np-232	2.83E+04	2.43E-13
Np-233	4.11E+05	3.52E-12
Np-234	3.17E+04	2.72E-13
Np-235	1.47E+07	1.26E-10
Np-236	2.48E+05	2.12E-12
Np-236m	7.34E+05	6.29E-12

Nuclide	Ground Shine DCS (Bq/m²)	Ground Shine DCS (μCi/m²)
Np-237	1.30E+06	1.11E-11
Np-238	5.63E+04	4.83E-13
Np-239	1.96E+05	1.68E-12
Np-240	3.17E+04	2.72E-13
Np-240m	8.46E+04	7.25E-13
Np-241	4.36E+05	3.73E-12
Np-242	9.22E+04	7.90E-13
Np-242m	3.45E+04	2.96E-13
Pu-232	5.97E+05	5.12E-12
Pu-234	5.50E+05	4.71E-12
Pu-235	3.97E+05	3.41E-12
Pu-236	4.74E+07	4.06E-10
Pu-237	7.43E+05	6.36E-12
Pu-238	5.29E+07	4.54E-10
Pu-239	1.04E+08	8.88E-10
Pu-240	5.58E+07	4.78E-10
Pu-241	2.22E+10	1.90E-07
Pu-242	5.70E+07	4.89E-10
Pu-243	1.40E+06	1.20E-11
Pu-244	1.65E+06	1.42E-11
Pu-245	8.11E+04	6.95E-13
Pu-246	2.54E+05	2.17E-12
Am-237	9.38E+04	8.04E-13
Am-238	3.80E+04	3.26E-13
Am-239	1.52E+05	1.30E-12
Am-240	3.30E+04	2.83E-13
Am-241	1.45E+06	1.25E-11
Am-242	1.97E+06	1.69E-11
Am-242m	1.53E+07	1.31E-10
Am-243	6.39E+05	5.48E-12
Am-244	4.20E+04	3.60E-13
Am-244m	4.52E+05	3.88E-12
Am-245	7.73E+05	6.63E-12
Am-246	4.36E+04	3.73E-13
Am-246m	3.31E+04	2.83E-13
Am-247	1.88E+05	1.61E-12
Cm-238	4.54E+05	3.89E-12
Cm-239	1.38E+05	1.18E-12

Nuclide	Ground Shine DCS (Bq/m²)	Ground Shine DCS (μCi/m²)
Cm-240	4.23E+07	3.63E-10
Cm-241	6.83E+04	5.86E-13
Cm-242	4.75E+07	4.07E-10
Cm-243	2.69E+05	2.30E-12
Cm-244	5.42E+07	4.65E-10
Cm-245	3.48E+05	2.98E-12
Cm-246	8.19E+06	7.02E-11
Cm-247	1.06E+05	9.12E-13
Cm-248	2.54E+04	2.17E-13
Cm-249	9.61E+05	8.24E-12
Cm-250	2.50E+03	2.14E-14
Cm-251	2.16E+05	1.85E-12
Bk-245	1.54E+05	1.32E-12
Bk-246	4.00E+04	3.43E-13
Bk-247	2.40E+05	2.06E-12
Bk-248m	5.51E+05	4.73E-12
Bk-249	5.59E+09	4.79E-08
Bk-250	3.72E+04	3.19E-13
Bk-251	3.38E+05	2.89E-12
Cf-244	4.16E+07	3.57E-10
Cf-246	5.61E+07	4.81E-10
Cf-247	3.75E+05	3.22E-12
Cf-248	3.34E+07	2.86E-10
Cf-249	1.03E+05	8.82E-13
Cf-250	3.25E+06	2.79E-11
Cf-251	2.96E+05	2.54E-12
Cf-252	7.34E+04	6.29E-13
Cf-253	1.50E+07	1.28E-10
Cf-254	1.98E+03	1.70E-14
Cf-255	5.49E+06	4.70E-11
Es-249	8.34E+04	7.15E-13
Es-250	2.83E+04	2.43E-13
Es-250m	6.24E+04	5.35E-13
Es-251	3.82E+05	3.27E-12
Es-253	6.34E+07	5.44E-10
Es-254	3.58E+06	3.07E-11
Es-254m	6.91E+04	5.92E-13
Es-255	4.64E+07	3.98E-10

Nuclide	Ground Shine DCS (Bq/m²)	Ground Shine DCS (μCi/m²)
Es-256	4.76E+05	4.08E-12
Fm-251	2.26E+05	1.94E-12
Fm-252	3.53E+07	3.03E-10
Fm-253	5.65E+05	4.84E-12
Fm-254	4.37E+06	3.75E-11
Fm-255	4.43E+06	3.80E-11
Fm-256	2.71E+03	2.32E-14
Fm-257	2.40E+05	2.06E-12

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