Translation from Finnish

Legally binding only in Finnish and Swedish
Ministry of Social Affairs and Health, Finland

Government Decree on Ionizing Radiation
1034/2018

By the decision of the Government, the following is enacted under the Radiation Act (859/2018):

Chapter 1
General provisions

Section 1
Limitation of scope of application

This Decree does not apply to non-ionizing radiation.

Chapter 2
General principles

Section 2
Exposures to be accounted for in the justification assessment and the optimization of radiation protection

The justification assessment of a radiation practice and the optimization of radiation protection within a radiation practice shall take into account occupational exposure, public exposure and medical exposure.

The justification assessment of individual medical exposure shall not take into account occupational exposure and public exposure.

In an emergency exposure situation and an existing exposure situation, the justification assessment of protective actions and the optimization of radiation protection must take into account occupational exposure and public exposure prior to, during and after the protective actions.

The justification assessment and optimization of radiation protection referred to in subsections 1 and 3 must also take into account the waste generated as well as the radiation exposure arising from the related waste management.

Section 3
Assessment of overall benefit

An assessment of the overall benefit referred to in section 5 of the Radiation Act (859/2018) must consider the health benefit to the individual being exposed and the benefits to the society.

An assessment of detriments must account for radiation exposure and the resultant health detriments, environmental detriments as well as detriments to property and the functionality of society.

Section 4
Individual justification assessment of medical exposure

The justification of medical exposure arising from an examination, a procedure or treatment must be assessed individually in advance. The assessment must account for the purpose and specific objectives of the examination, procedure or treatment as well as the characteristics of the person subject to it. An assessment of the benefits and detriment must take into account the alternative methods available for achieving the purpose of the examination, procedure or treatment as well as the effectiveness, benefits and risk factors of these methods.

For the purposes of medical research as referred to in the Medical Research Act (488/1999), the medical exposure caused to the research subject must be assessed and justified in advance.

Section 5
Justification of non-medical imaging exposure

The grounds for the justification of the method and individual application of exposure as referred to in Chapter 14 of the Radiation Act must be provided. The grounds must account for, in addition to what is provided in section 4, subsection 1, societal values and ethical considerations.

Section 6

Justification for consumer goods

The justification assessment concerning the manufacture, import and transfer of consumer goods causing exposure to ionizing radiation must consider:

1) the applicability of the consumer goods' characteristics and performance for the intended use;
2) the consumer goods' design and technical characteristics with which the radiation exposure and potential exposure attributable to the goods can be minimized in normal use and in any possible misuse;
3) the need for a safety license concerning the use of the consumer goods and a possible exemption from a safety licence;
4) the consumer goods' compliance with requirements;
5) the need for rendering harmless any radioactive waste arising from the consumer goods;
6) the appropriateness of the consumer goods' markings;
7) information and instructions to be provided to the consumer on the consumer goods' safe and appropriate use and on rendering radioactive waste harmless.

Section 7

Statements and other reports on the justification of practices

As part of the justification assessment of a new type of radiation practice as referred to in section 24 of the Radiation Act, the Radiation and Nuclear Safety Authority (hereinafter STUK) requests, unless it is clearly not necessary for the resolution of the matter, a statement from:

1) the Advisory Committee on Radiation Safety;
2) the Data Protection Ombudsman, if the practice involves factors related to data protection;
3) key stakeholders, as necessary, on whom the intended practice may have an impact.

In addition, STUK requests, when necessary, a report from an expert institution or some other expert on the technology and safety of the appliance or method meant for practice referred to in subsection 1.

The undertaking must ensure that STUK has an opinion at its disposal for the purposes of the justification assessment referred to in section 24 of the Radiation Act from:

1) an ethics committee referred to in the Medical Research Act if radiation is intentionally directed at a human being within the said Act's scope of application;

2) the National Institute for Health and Welfare on the assessment of a health care method, in the case of a new type of medical exposure method involving exposure to a large part of the population, or which causes a high level of medical exposure.

The ethics committee hears experts on the medical use of radiation in a matter referred to in subsection 3, paragraph 1.

Section 8
Limitation of exposure in the optimization of radiation protection

The optimization of radiation protection referred to in section 6, subsection 1 of the Radiation Act with regard to occupational and public exposure shall be carried out in such a way that the magnitude of the dose to a person, the probability of the exposure and the number of exposed persons are kept as low as reasonably achievable taking into account current knowledge and technology as well as economic and societal factors.

Unnecessary medical exposure shall be avoided. In this respect, the following must be taken in consideration:

1) the selection of appliances;
2) the selection of parameters affecting the performance of the appliance;
3) the determination of the patient dose and the measurement of the activity of the radiopharmaceutical to be administered to the patient;
4) quality assurance.

Section 9
Optimization of the radiation protection of a research subject taking part in medical research

The radiation exposure of a research subject taking part in medical research as referred to in the Medical Research Act must be planned individually if the health of the research subject is expected to gain medical benefit from the examination, procedure or treatment. A dose constraint must be applied to an individual who is not expected to gain direct medical benefit from the radiation exposure caused by the research.

Section 10

Optimization of carer's and comforter's radiation protection

A carer and comforter must be instructed and protected in such a way that their radiation exposure remains as low as reasonably achievable.

Section 11

Release of a patient who emits radiation

In the event that medical exposure is attributable to a radiopharmaceutical or a sealed source implanted in the patient, the individual subject to the radiation exposure may not be released until the dose arised from the radioactive substance in the body to the carer or comforter or members of the public is expected to remain less than the dose constraint.

The physician responsible for the medical exposure is responsible for the patient's release and for providing the patient or their representative with written instructions on how to prevent unnecessary exposure to individuals in contact with the patient.

Section 12

Calculation and determination grounds for radiation exposure

The calculation method used for the determination of radiation exposure must be suitable for the purpose and proven as reliable.

Radiation exposure must determined with the calculation and determination grounds provided in Annexes 1–3.

Chapter 3

Dose limits

Section 13

Dose limits for a radiation worker

The effective dose of a radiation worker may not be higher than 20 millisieverts a year.

The equivalent dose of the lens of the eye may not be higher than 100 millisieverts during a time period of five consecutive years. However, during a single year, the dose may not be higher than 50 millisieverts.

The equivalent dose of skin may not be higher than 500 millisieverts a year as an average dose on one square centimeter size of the most exposed skin area.

The equivalent dose of hands, arms, feet and ankles may not be higher than 500 millisieverts a year.

Section 14
Dose limits for members of the public and a comparable worker

The effective dose of members of the public attributable to radiation practices may not be higher than 1 millisievert a year.

The equivalent dose of the lens of the eye may not be higher than 15 millisieverts a year.

The equivalent dose of skin may not be higher than 50 millisieverts a year as an average dose on one square centimeter size of the most exposed skin area.
What is provided in subsections 1–3 also applies to a worker who is not a radiation worker, an emergency worker or an emergency helper.

Section 15
Dose limits for students and apprentices

When a student or apprentice participates in the use of radiation sources according to what is provided in section 99 of the Radiation Act, the effective dose caused may not be higher than 6 millisieverts a year.

The equivalent dose of the lens of the eye may not be higher than 15 millisieverts a year.

The equivalent dose of skin may not be higher than 150 millisieverts a year as an average dose on one square centimeter size of the most exposed skin area.

The equivalent dose of hands, arms, feet and ankles may not be higher than 150 millisieverts a year.

Any apprentices and students who have turned 18 and who have to use radiation sources in their work during their studies are subject to the dose limits of a radiation worker provided in section 13.

Other apprentices and students are subject to the dose limits of members of the public and a comparable worker provided in section 14.

Chapter 4
Obligations of the undertaking

Section 16
Categorization of radiation practices

The categorizations concerning radiation practices referred to in section 27 of the Radiation Act must be carried out separately for occupational exposure, public exposure and medical exposure. For the purpose of the categorization, the radiation exposure from normal operations and the potential exposure from radiation safety deviations must be considered.

In addition, a categorization based on radiation sources shall be made for unsealed sources in laboratories, discharges of radioactive substances, sealed sources and waste to be disposed of in the form of mounding.

The category of the radiation exposure and radiation source may be 1, 2 or 3. Category 1 is equivalent to the highest and category 3 to the lowest radiation exposure, activity of the radiation source or amount of waste or activity concentration. If the practice in question does not include a radiation exposure or radiation source functioning as a basis for the categorization, the category of the radiation exposure or radiation source is E. The categorizations of radiation exposures and radiation sources are provided for in Annex 4.

Section 17
Use of a radiation safety expert

The undertaking must ensure that the radiation safety expert is:

1) closely involved in the radiation practice if the category of the occupational or public exposure referred to in section 16 is 1 or 2;
2) available for the radiation practice when the category of the occupational or public exposure is 3.

A radiation safety expert must also be used:

1) at the commencement of a new radiation practice;

2) when changing a radiation practice in such a way that the category of the occupational or public exposure may change;
3) in the event of a problem observed in the radiation protection of workers or members of the public;
4) in connection to the decommissioning of a radiation practice which involves the handling of radioactive substances when it pertains to a matter referred to in section 18, subsection 12 or 13.

By way of derogation from what is provided in subsection 1 and 2, a radiation safety expert must at least be used when advice is required in a matter referred to in section 18:

1) in dental x-ray imaging by using panoramic tomography x-ray equipment, cephalostats or dental x-ray equipment for imaging with an intraoral imaging receptor;
2) in veterinary x-ray examinations conducted with dental x-ray equipment;
3) the use of shielded x-ray equipment in industry;
4) in an aviation practice requiring a safety licence.

Section 18
Areas of radiation safety expert's use

A radiation safety expert must be used as provided in section 17 at least in:

1) demonstrating the justification of a radiation practice;
2) assessing and limiting occupational and public exposure;
3) setting and using dose constraints for the optimization of radiation protection;
4) preparing for radiation safety deviations and drawing up the plans concerning them;
5) preparing a safety assessment concerning a radiation practice;
6) preparing a security arrangements plan;
7) preparing quality assurance programmes concerning radiation practices;
8) preparing workers' radiation safety instructions;
9) determining the need for workers' radiation protection training and supplementary training and the planning of training;
10) taking into service of radiation meters and radiation measuring instruments and ensuring the constancy of the measurements;
11) taking into service of radiation sources and facilities and places for their use and storage and the related radiation shielding and systems pertaining to safety;
12) arrangements concerning the management of radioactive waste;

13) decommissioning of radiation sources and facilities;
14) the categorization of radiation workers;
15) the categorization of working areas;
16) organizing radiological surveillance and individual monitoring;
17) the working arrangements of pregnant or breast-feeding workers;
18) arrangements concerning the discharges of radioactive substances;
19) organizing the monitoring of public exposure;
20) preparing a baseline environmental radioactivity study;
21) the investigation of the reasons for a radiation safety deviation and the radiation exposure caused as well as in the planning of measures required to prevent comparable events.

Section 19
Use of a medical physics expert

The undertaking must ensure that a medical physics expert is closely involved in radiotherapy practices, excluding standardised radionuclide therapy.

A medical physics expert must be used in any radionuclide therapy other than that referred to in subsection 1 as well as in interventional radiology, computerized tomography and other practices involving high medical exposures.

In practices other than those referred to in subsection 1 and 2, a medical physics expert must be used at the commencement of the practice and the expert must be available during the practice.

By way of derogation from what is provided in subsection 3, dental radiography in health care using panoramic tomography equipment, cephalostats or dental radiography

equipment for imaging on an intraoral imaging receptor are subject to the use of a medical physics expert, provided that advice is required in some matter referred to in section 20.

Any imaging referred to in Chapter 14 of the Radiation Act with a health care appliance is subject to subsection 3 and 4.

Section 20
Areas of medical physics expert's use

A medical physics expert must be used in taking care of the dosimetry of medical exposure, including the physical measurements needed for the determination of radiation exposure and to provide advice on radiation appliances.

A medical physics expert must furthermore be used in:

1) optimizing the radiation protection of an individual subject to medical exposure as well as of the foetus of a pregnant individual being examined, receiving treatment or subject to a procedure;
2) comparing a patient's radiation exposure to reference levels;
3) preparing instructions concerning the performance of conventional radiological examinations, procedures and treatments;
4) selecting of measurement equipment;
5) the technical specification of radiation appliances;
6) the design of facilities;
7) planning and implementation of a quality assurance programme for radiation appliances;
8) the acceptance tests of appliances and in demonstrating the fulfilment of the appliances' in-service acceptability requirements and other requirements concerning the appliances and their use;
9) preparing a safety assessment with respect to medical exposure;
10) investing unplanned medical exposure and planning measures required to prevent comparable events;
11) planning and organizing personnel's radiation protection training.

Section 21
Co-operation between experts

The undertaking must ensure that the radiation safety expert and the medical physics expert work in co-operation to optimize radiation protection in medical use of radiation.

Section 22
Human resources

To ensure safety in medical exposure:

1) an oncologist must be available for each fraction of radiotherapy and a specialist of clinical physiology and nuclear medicine must be available for radionuclide therapy;
2) two radiographers must be present during radiotherapy, or, if another radiographer is not available, a medical physicist with a protected title by the Health Care Professionals Act (559/1994) and who is competent to verify and interrupt a treatment may be present instead of one radiographer;
3) a medical physicist must be available for verifying each dose calculation and delivery of the radiotherapy, excluding standardised radionuclide therapies
4) a specialist of clinical physiology and nuclear medicine must be available for ensuring the justification assessment prior to every nuclear medicine examination and for the interpretation of images, and a physician trained in interpreting the images of hybrid imaging must be available for such interpretation;
5) the personnel required for compliance with the good manufacturing practice of medicines as referred to in section 14 of the Medicines Act (395/1987) must be available for the production of radiopharmaceuticals;
6) a health care professional, assigned to the task by a physician referred to in section 114, subsection 1 of the Radiation Act, must be available for the administration of radiopharmaceuticals to an individual to be examined or treated;
7) a radiographer, bioanalyst or a nurse trained for nuclear medicine imaging must be present during a nuclear medicine examination to ensure the progress of the examination.

In industrial radiography, the radiographer must have at least one assistant if the imaging is carried out in a place other than an imaging room intended for that purpose.

Chapter 5
Safety licence and security

Section 23
Information to be provided in the application for a safety licence

A safety licence application must include the information referred to in Annex 5.

Section 24

Inquiries and notifications concerning the import and export of a high-activity sealed source

Prior to granting a safety licence for the export of a high-activity sealed source belonging to category 1 or 2, STUK verifies with the appropriate regulatory authority of the State of destination that the said State has no obstacle for the export and that the consignee is entitled to receive the source.

The notifications referred to in section 72, subsection 3 of the Radiation Act must be made with regard to the import and export of high-activity sealed sources belonging in class 1 or 2 source for each consignment stated in more detail by STUK in the safety licence.

Section 25

Amending a safety licence

Material changes to the practice which require a prior amending of a safety licence include:

1) a change in the holder of the safety licence;
2) a change due to which the category of the radiation exposure or radiation source changes from category 2 or 3 to category 1, or from category 3 to category 2;
3) a change of the radiation safety officer or some other significant change in the management system;
4) a change due to which the security referred to in section 54 of the Radiation Act would have to be changed or the high-activity sealed source specified in the security changes;
5) the taking into service of a radiation source for a treatment purpose;
6) the taking into service of a radiation source other than a source referred to in point 4 or 5 if the source differs, in terms of its radiation or radiation safety properties, from what is already in use in the practice pursuant to the safety licence or if its in-service radiation safety requires changes to structural shieldings or arrangements related to the place of use;
7) the use of the radiation source for a purpose other than for which the licence was granted;
8) a change in the place where the practices are carried out;
9) a change in the practices in such a way that the amount or quality of the radioactive waste or the waste referred to in section 78, subsection 3 of the Radiation Act, or the arrangements concerning it, change from what was approved in the safety licence;

10) changing the practices in such a way that the discharges of radioactive substances or their quality change from what was approved in the safety licence.

Section 26
Notification of changes to a practice subject to a safety licence

Changes to a practice subject to a safety licence, which must be notified to STUK within two weeks of the change, are:

1) a change in the contact information of the holder of the safety licence;
2) a change due to which the category of the radiation exposure or radiation source changes from category 2 or 1 to category 3, or from category 1 to category 2;
3) the taking into service of a radiation source other than a source referred to in section 25, paragraphs 4–6;
4) a significant change to the quality assurance programme of radiotherapy;
5) removal of a radiation source from use;
6) partial or total cessation of a radiation practice.

If a radiation source whose possession requires a safety licence is removed from use by relinquishment to another undertaking, the notification concerning the removal from use must include a certificate provided by the consignee on taking possession of the radiation source.

Section 27
Practices exempt from a safety licence

Under section 49, subsection 1, paragraph 9 of the Radiation Act, a safety licence is not required for:

1) the use, manufacture, trade, installation, possession, safekeeping, import, transfer or storage of an appliance which produces ionizing radiation electrically, provided that the appliance operates with a maximum voltage of 30 kilovolts and does not cause, within a ten centimeter distance of the appliance's accessible surfaces, a greater dose rate than one microsievert per hour;
2) the use of fire alarms and fire detectors containing radioactive americium-241 isotope in the purpose they have been designed for or their resale and use or the possession, safekeeping, storage, installation, maintenance or repair related to their use and resale; new fire alarms may nevertheless contain a maximum of 40 kilobecquerels of the americium-241 isotope;

3) the use of an appliance which produces ionizing radiation electrically or a sealed source containing a maximum of 40 kilobecquerels of the americium-241, strontium-90 or caesium-137 isotope with radiation safety properties meant for educational use, as a teaching aid in schools, vocational schools and comparable institutions, provided that the educational institution has appointed a person in charge of radiation safety;
4) the use of lamps and igniters containing a maximum equal to the exemption value of a radioactive substance in the purpose they have been designed for or their resale and use or the possession, safekeeping, storage, installation, maintenance or repair related to their use and resale.

Section 28
Prerequisites for exemption from a safety licence

The practice is inherently safe as referred to in section 50, subsection 1, paragraph 3 of the Radiation Act if the workers do not need to be categorized as radiation workers and the effective dose of a member of the public is at most, excluding unlikely radiation safety deviations, of the magnitude of:

1) 10 microsieverts a year from artificial radioactive substances;
2) 1 millisieverts a year from nature's radioactive materials.

The effective dose to a member of the public in unlikely radiation safety deviations in a practice referred to in subsection 1, paragraph 1may not be greater than 1 millisieverts a year.

An assessment of a dose arising from natural radioactive materials accounts for the practice's addition to the dose arising from the existing local background radiation.

Section 29
Furnishing security

The basic charge for a security in a practice referred to in section 54, subsection 1, paragraphs 1–3 of the Radiation Act is EUR 10,000. The surcharge is EUR 75 per payment unit.

The number of payment units is calculated by dividing the activity value of the high-activity sealed source in question, the activity value of the radioactive substance being held at any one time or the value of the nuclide-specific combined activity of sealed sources removed from use annually by the value of the activity of a high-activity sealed source provided under section 75, subsection 5 of the Radiation Act.

STUK may estimate and impose the surcharge to be smaller than what is provided in subsection 1 if the number of the payment units is greater than 2,000 and the security would be clearly excessive in proportion to the risks related to the practice. In such a case, however, the security may not be less than EUR 160,000.

A practice referred to in section 54, subsection 1, paragraph 4 of the Radiation Act is subject to the furnishing a security if the amount of the costs arising from rendering the radioactive waste harmless, the measures necessary in terms of radiation safety in the waste management of waste referred to in section 78, subsection 3 of the Radiation Act or any environmental cleaning measures is estimated to be greater than EUR 100,000.

Chapter 6
Waste and discharges

Section 30
Radioactive waste

Solid waste generated in radiation practices is not radioactive waste if the waste's activity concentration is smaller than the clearance level referred to in section 85 of the Radiation Act.

A radiation source is not radioactive waste if its activity or activity concentration is smaller than the exemption level referred to in section 49 of the Radiation Act. If the source contains different radionuclides or if more than one source is handled at the same time, a radiation source or a radiation source batch in which the nuclide-specific activity or activity concentration divided by a corresponding exemption level of all nuclides combined is smaller than one is not radioactive waste.

Radioactive substances discharged to the environment or sewerage system pursuant to section 127 of the Radiation Act are not radioactive waste.

Section 31
Waste other than radioactive waste

Waste generated in a practice causing exposure to natural radiation and in the implementation of protective measures, the activity concentration of which is greater than the clearance level referred to in section 85 of the Radiation Act is considered waste as referred to in section 78, subsection 3 of the Radiation Act.

Section 32
Subsidiary duty of care

STUK ensures that the duties falling under the scope of obligations imposed on the State in section 80, subsections 1–3 of the Radiation Act are carried out.

Responsibility for waste transfers to the State once the waste has been relinquished to the possession of STUK.

Section 33
National programme for the waste management of radioactive waste

The national programme for the management of radioactive waste referred to in section 87 of the Radiation Act must present at least the following:

. 1) the general objectives of the national waste management policy concerning the management of radioactive waste;
2) the most important intermediate goals and clear schedules for the achievement of these intermediate goals, considering the programme's general objectives;
3) total quantities of radioactive waste and estimates of future quantities, including waste arising from decommissioning;
4) the location and quantities of the radioactive waste in accordance with the appropriate categorization;
5) waste management plans and technical solutions for the management of radioactive waste from its generation to its disposal or some other method for rendering it harmless;
6) the plans concerning the time subsequent to the closure of the final disposal facility and the period of time for which the monitoring of the disposal will continue as well as the means by which knowledge concerning the facility in question will be stored in the long term;
7) the research, development and demonstration measures needed for the implementation of the waste management solutions for radioactive waste;
8) responsibility for the programme's implementation and indicators for monitoring the implementation responsibility which enable the monitoring of the progress towards the objectives and the implementation of the programme;
9) an estimate of the programme's costs and information on what the estimate is based on;

10) information on the funding arrangement applied to implement the management of the radioactive waste;
11) information on the publicity of the programme and how transparency will be ensured;
12) Finland’s treaties on radioactive waste made with other States

Chapter 7
Occupational exposure

Section 34
Classification of radiation workers

A radiation worker belongs to category A if the effective dose attributable to the radiation work can be higher than 6 millisieverts in a year and the equivalent dose of the lens of the eye higher than 15 millisieverts a year or the equivalent dose of the skin, hands, arms, feet or ankles higher than 150 millisieverts a year.

Other radiation workers belong to category B.

Section 35
Classification of working areas

The identification and differentiation of the controlled and supervised areas must account for the nature of the practice and the magnitude of the radiation risk attributable to the practice.

An area must be differentiated as a supervised area if the effective dose to a radiation worker working there can be higher than 1 millisievert a year or the equivalent dose of the lens of the eye higher than 15 millisieverts a year or the equivalent dose of the skin, hands, arms, feet or ankles higher than 50 millisieverts a year.

An area in which working requires special measures to protect against ionizing radiation due to the radiation or contamination risk must be differentiated as a controlled area.

Section 36
Requirements for controlled areas

If the area carries a risk of the spread of radioactive contamination, necessary arrangements must be carried out for individuals’ arrival to and departure from the area and the delivery and removal of goods to and from the area.

A controlled area must have markings indicating the area's classification, the nature of the radiation sources and the related hazards.

The undertaking shall provide workers working in the controlled area with training on the specific characteristics of the workplace and the work tasks and provide the workers with the personal protective equipment necessary for radiation protection.

Section 37
Requirements for supervised areas

A supervised area must have markings indicating the area's classification, the nature of the radiation sources and the related hazards, should it be necessary in terms of considering the hazard.

Special rules must be confirmed for the supervised area, should it be necessary in terms of considering the hazard.

Section 38
Recording the results of radiological surveillance

The undertaking shall record the following with regard to the results of radiological surveillance:

1) the time of surveillance or measurements;
2) the determined dose or the dose rates of external radiation, in which case the radiation types and energies or the radionuclide emitting the radiation must also be recorded;
3) the radioactive substance which caused the contamination, its surface activity as well as its physical state and chemical form;
4) the activity concentration of the radioactive substance in the air as well as its physical state or chemical form, should they be necessary for the calculation of doses;
5) the results of a worker's contamination measurement;
6) the duration of workers' exposure, should it be necessary for the calculation of the doses;
7) a note in the event that no external radiation, contamination or radioactive substance in the air is found;
8) record-keeping on the use of a dosemeter shared by several individuals which allows for assessing the radiation exposure of workers and deducing the need for individual monitoring.

Section 39
Outside worker working in a controlled area

The undertaking must carry out the measures necessary for the determing the individual dose of an outside worker belonging in category A working in a controlled area after each working period for the dose entry referred to in subsection 2. If the dose measured during a working period cannot be obtained from a dosemeter immediately after the working period, the dose in question must be determined through the radiological surveillance. If the combined dose of different working periods cannot be higher than six millisieverts a month, the worker's dose does not need to be determined separately for a period shorter than the measuring period.

The undertaking must record the following on the results of the individual monitoring of an outside worker working in a controlled area after each working period:

1) the duration of the working period;
2) an estimate of the effective dose during the working period;
3) in the case of ununiformly distributed radiation exposure, an estimate of the equivalent doses of various parts of the body;
4) in the case of internal exposure, an estimate of the intake of radionuclides or the committed effective dose.

Section 40
Storing the results of radiological surveillance and individual monitoring

The results of radiological surveillance must be stored for a minimum period of five years and for as long as the storage is necessary to ensure that the practice complies with the principles of optimization and limitation and for the development of the practice's safety and working methods.

The results of a worker's individual monitoring must be stored in terms of the worker's entire time at work for as long as the worker is employed by the undertaking or the employer. Any information which is material in terms of determining the worker's individual dose, such as the results of thyroid gland and skin contamination measurements, must likewise be stored.

Personal data protection is subject to what is provided separately.

Section 41

Protection during pregnancy and breastfeeding

The work of a pregnant worker must be organized in such a way that the foetus's equivalent dose is as low as reasonably achievable and that it is no greater than one millisievert during pregnancy once the worker has informed the undertaking or, in the case of an external worker, the employer of their pregnancy.

A breastfeeding worker must not be assigned work which involves a risk of radionuclide intake or body contamination.

Section 42

Information to be stored in workers' dose register

In addition to what is provided in section 20 of the Radiation Act, the following information is stored in the workers' dose register:

1) the first name, last name, personal identity code, gender and nationality of the worker, emergency worker and emergency helpers as well as the start and end date of the individual monitoring;
2) of the undertaking and the employer of an outside worker, the name, address and individual identification of the undertaking and the employer as well as the name of the employer's contact person;
3) information on the radiation practice and the nature of the exposure as well as the category of the radiation worker;
4) of the results of individual monitoring, the time of the measurement period as well as the result of the measurement or dose determination and, in terms of internal exposure, the information used for determining the dose;
5) of radiation safety deviations, the investigations pertaining to the exposure conditions and performed measures.

If a worker's individual dose has been determined, the effective dose is stored as millisieverts, the equivalent doses of different parts of the body, in the case of ununiformly distributed radiation, as millisieverts and, in the case of an intake of radionuclides, the committed effective dose as millisieverts.

Section 43
Requirements applicable to monitoring document

STUK provides an outside worker, at the worker's request, with a document (monitoring document) on his or her individual radiation exposure from the workers' dose register for the purpose of radiation work to be carried out abroad. The monitoring document contains the following:

1) information on the worker's effective dose as millisieverts over a period of five years, including the year in question;
2) in the case of ununiformly distributed radiation exposure, insofar as determinations have been made, information on the dose of exposed parts of the body, such as the equivalent dose of an eye, hands, arms, feet and ankles, as millisieverts and, in the case of an intake of a radioactive substance, the committed effective dose as millisieverts;
3) the document's issuer and their address;
4) the date on which the document is issued.

STUK will not, without acceptable grounds, provide the worker with a new monitoring document before the previously issued document has been returned.

Chapter 8
Non-medical imaging exposure

Section 44
Provision of information and requesting consent

The information referred to in section 124, subsection 1 of the Radiation Act must be provided prior to a request for consent.

The provision of information and the request for consent is the responsibility of the referring medical practitioner or dentist, if the imaging is part of a health examination or assessment of the state of health conducted by the physician or dentist. The legal person or authority requiring imaging to be carried out with health care appliance is responsible for the provision of information and the request for consent. Practical arrangements for the provision of information and request for consent can be made between the legal person or authority requiring imaging and the undertaking responsible for the imaging.

Seeking imaging on the basis of a physician's referral after the provision of information can be deemed a consent.

In the case of imaging carried out with appliance other than health care appliance, an individual's participation in imaging after they have received the information referred to in section 124, subsection 1 of the Radiation Act can be considered consent.

Chapter 9
Emergency exposure situations

Section 45
Setting a reference level to members of the public

The reference level of exposure resulting from an emergency exposure situation to members of the public is, as an effective dose, at least 20 and at most 100 millisieverts a year.

During an emergency exposure situation, the reference level can be set lower than what is provided in subsection 1 for the duration of the situation in question, should this be justified in consideration of the severity and extent of the situation. The reference level may not be set lower than 20 millisieverts, should its achievement require unreasonably extensive or expensive measures.

During an emergency exposure situation, the reference level of members of the public must be reduced as soon as the situation allows.

Section 46
Reference levels for emergency workers and helpers

The reference level of exposure resulting from an emergency exposure situation for emergency workers and helpers is, as an effective dose, 100 millisieverts a year.

In a situation involving the saving of lives, the prevention of serious health effects caused by radiation or preventing an accident from growing worse, the reference level for emergency workers and helpers is 500 millisieverts as an effective dose a year.

Section 47
Use of reference levels in preparedness

Undertakings and authorities must, in their emergency response planning related to emergency exposure situations, prepare for carrying out such protective actions they are responsible for which allow for keeping the dose of members of the public lower than the reference level for the emergency exposure situation.

Undertakings and authorities must, in their emergency response planning, prepare for the radiation protection of the emergency workers and helpers they are responsible for which allows for keeping the doses lower than the reference level for the emergency exposure situation.

Section 48
Use of reference levels in emergency exposure situations

In an emergency exposure situation, the aim must be to carry out the protective actions in such a way that the dose attributable to the radiation exposure remains lower than the reference level for the emergency exposure situation, taking into account all exposure pathways.

However, doses higher than the reference level are acceptable if the situation is, due to its extent or severity, such that maintaining the dose lower than the reference level cannot be ensured with protective measures or if it would require actions that would cause unreasonably extensive detriments in relation to the benefits to be gained.

Chapter 10
Existing exposure situations

Section 49
National action plan for identifying existing exposure situations

The national action plan referred to in section 142 of the Radiation Act must account for any of the following, with the potential to cause radiation exposure:

1) discontinued practices which have not been subject to regulatory control or which have not been regulated in the same way as similar practices at the time the plan is drawn up;
2) emergency exposure situations from which there has been a transition to an existing exposure situation;
3) practices in which the undertaking responsible for the practice cannot be identified;

4) naturally occurring radioactive substances in situations other than those provided for in Chapter 18 of the Radiation Act;
5) radioactive substances which have ended up in products meant for consumers from the situations referred to in paragraphs 1–4, excluding foodstuffs, feed, household water and construction products.

The national action plan must detail the procedures and parties responsible for identifying the situations referred to in subsection 1.

Section 50
Plan on measures in an existing exposure situation

The plan referred to in section 139, subsection 3 of the Radiation Act must detail:

1) the plan's objectives;
2) the areas and groups of people affected by the existing exposure situation;
3) the applicable reference values referred to in section 140 of the Radiation Act;
4) the selected protective actions whose implementation method, extent and duration has been optimized;
5) measures for the provision of advice on radiation exposure management to individuals and regionally;
6) measures for the provision of instructions and information to exposed members of the public on the possible detriments to health and the means available for the reduction and monitoring of their own exposure;
7) the parties responsible for the measures and the procedures for mutual coordination.

If the exposure situation involves naturally occurring radioactive substances which are not controlled as part of the practice subject to a safety licence, the plan must also detail measures for the provision of instructions and information on appropriate monitoring methods for activity concentrations and radiation exposure and protective actions.

Section 51
Plan's execution and review

The parties responsible for the execution of the plan referred to above, in section 50, must, in terms of their own areas of responsibility:

1) regularly evaluate the protective measures available for the achievement of the objectives and assess the effectiveness of planned and executed measures;
2) assess the radiation dose distribution of workers and members of the public resulting from the plan’s execution in co-operation with STUK;
3) consider possible additional measures for the optimization of protection and for the reduction of any radiation exposures higher than reference levels.

The National Supervisory Authority for Welfare and Health monitors the execution referred to in subsection 1 and revises the plan if necessary.

Chapter 11
Natural radiation

Section 52
Practices related to soil, rock and other materials subject to an investigation concerning radiation exposure

Practices referred to in section 151 of the Radiation Act, in which the radiation exposure arising from natural radiation may be higher than the reference level, include at least:

1) the production of rare earths;
2) the production of thorium compounds and the manufacture of products containing thorium;
3) the processing of niobium-tantalum ore;
4) the production and refining of oil and gas;
5) the production of geothermal energy;
6) the production of titanium dioxide pigment;
7) thermal phosphorus production;
8) the zircon and zirconium industry;
9) the production of phosphate fertilizers;
10) the production of cement and the maintenance of the clinker ovens used therein;
11) the use of peat and coal-fires power plants and the maintenance, repair and removal from use of the boilers in these plants;
12) the production of phosphoric acid;
13) the reduction smelting of metallic ores and concentrates;
14) the production of household water in ground water processing facilities;
15) the mining of ores other than uranium ore.

Section 53

Construction products subject to an investigation of radiation exposure

Construction products referred to in section 153 of the Radiation Act, in which the radiation exposure arising from natural radiation may be higher than the reference level, include at least:

1) building frame structures made of mineral-based raw materials;
2) construction products whose primary raw material consists of crushed rocks, gravel or sand which contains granite or other granitoids, such as granodiorite, tonalite or gneiss;
3) construction products whose raw material consists of intermediate or by-products or waste generated by industries which exploit ash or mineral-based natural raw materials.

Section 54

National action plan for preventing risks arising from radon

The national action plan referred to in section 159 of the Radiation Act addresses risks arising from exposure in dwellings, other occupied spaces and workplaces attributable to radon released from soil and bedrock, construction products and household water.

Further provisions on the more detailed content of the action plan are provided in Annex 6.

The action plan is updated every five years.

Chapter 12

Approval of dosimetry service and other radiation measurements

Section 55

Applying for the approval of a dosimetry service

The application for the approval of a dosimetry service must detail:

1) the name and contact person of the dosimetry service and the contact information of its place of business;
2) information on the dosimetry service's organization, operations, the personnel's adequate competence and on the quality standard complied with in the operations;
3) technical information on the dose measurement system, including the methods of measurement and quality assurance;

4) calibration certificates, test reports and an estimate on the measurement uncertainty, the measurements' traceability to a metrological standard and a list of the standards used to demonstrate the reliability of the measurements;
5) an accreditation decision and the records of the accreditation service's periodic evaluations;
6) grounds for the lack of accreditation if there is none, and a description on a quality system pursuant to standard SFS-EN ISO/IEC 17025.

An extract from the relevant register in terms of the information referred to in subsection 1, paragraph 1 must be appended to the application.

A dose measurement system includes individual dosemeters, reader devices and peripheral devices as well as the programs and procedural instructions to be used in the determination of doses.

Section 56

Applying for the approval of other radiation measurements

The application concerning approval referred to in section 64 of the Radiation Act must detail the following:

1) the information necessary to identify the applicant and a contact person;
2) the method of measurement, the intended purpose of use, reliability and suitability for the purpose of the meter or measuring equipment, the types and energy ranges of radiation to be measured and the measurement quantities and ranges;
3) technical information on the meter or the measuring equipment;
4) documents pertaining to calibrations, tests and measurement uncertainty.

The measuring equipment includes the measuring instruments and other equipment used to obtain the measurement result.

Chapter 13

Inspection programme of STUK

Section 57

Inspection programme of STUK

The content of the inspection programme referred to in section 182 of the Radiation Act must be such that the supervision pursuant to it achieves, taking into account the risks arising from the practice, sufficient assurance of the safety of the radiation practice and of compliance with the provisions of the Radiation Act and the conditions provided in safety licences.

Section 58
Content of inspection programme

The inspection programme includes announced and unannounced, regular and case discretionary inspections.

The inspection programme may also include inspections based on regulatory control questionnaires and information and data received from the undertaking which do not include a visit to the place in which the practice is carried out.

The programme specifies target intervals for regular inspections, the grounds for conducting different types of inspections and the main content of the inspections. The programme accounts for the categorizations of radiation practices referred to in section 27 of the Radiation Act and for experiences accumulated from observations made in previous inspections.

Chapter 14
Advisory Committee on Radiation Safety

Section 59
Duties

The role of the Advisory Committee on Radiation Safety is to:

1) issue statements on matters concerning radiation practices, existing exposure situations and emergency exposure situations as well as on other matters of importance for radiation safety;
2) issue statements on the provisions and regulations on radiation safety prepared by STUK and other authorities;
3) to monitor the development of radiation safety and research in this field;
4) to promote domestic co-operation in the field of radiation safety and monitor international co-operation;
5) to present initiatives to the competent authorities on necessary measures concerning radiation safety.

Section 60
Term and composition

The Government appoints the chairperson, deputy chairperson and a maximum of seven other members of the Advisory Committee on Radiation Safety for three years at a time. Each member has a personal deputy member. The individuals appointed as members of the committee must represent a high level of expertise in the field of radiation safety.

Section 61
Experts and divisions

The Advisory Committee on Radiation Safety may invite permanent experts for its term. The committee's permanent expert is the Director General of STUK.

The committee may establish divisions for the purpose of preparing matters, to which the committee may also invite permanent experts who do not belong to the committee. A division may also hear experts. The chairperson of a division must be a member of the committee.

Section 62
Committee meetings and quorum

The Advisory Committee on Radiation Safety convenes at the invitation of the chairperson or, should the chairperson be prevented, at the invitation of the deputy chairperson and when at least two members have requested it in writing for the purpose of discussing the matter they have specified.

The committee has quorum when at least half of the members and either the chairperson or the deputy chairperson are present.

Section 63
Secretariat

The Advisory Committee on Radiation Safety can have one part-time executive secretary and one other part-time secretary, whom STUK will appoint to their tasks after hearing the committee.

Section 64
Reporting

The Advisory Committee on Radiation Safety prepares a report on its activities to the Ministry of Social Affairs and Health at the end of its term.

Chapter 15
Entry into force

Section 65

Entry into force

This Decree enters into force on 15th November 2018.

ANNEX 1

Quantities used in the determination of radiation exposure

Quantities used in the determination of radiation exposure are, in addition to the absorbed dose and activity referred to in the Government Decree on Units of Measurement (1015/2014):

1) *the absorbed dose rate* $\dot{D}$, which means the quotient of an addition dD to the absorbed dose occurring during a particular time interval dt and this time interval:

$$\dot{D} = \frac{dD}{dt}$$

where the *absorbed dose* D is the mean energy $d\bar{\varepsilon}$ transferred from absorbed ionizing radiation to a substance's infinitely small mass element dm per mass unit :

$$D = \frac{d\bar{\varepsilon}}{dm}$$

2) *the average absorbed dose* D_T *in a tissue or organ T*, which means the total energy ε_T transferred from ionizing radiation to the tissue or organ divided by the mass m_T of the tissue or organ:

$$D_T = \frac{\varepsilon_T}{m_T}$$

3) *the equivalent dose* $H_{T,R}$ *in a tissue or organ T*, which means the average absorbed dose $D_{T,R}$ in a tissue or organ multiplied with the radiation weighting factor w_R:

$$H_{T,R} = w_R D_{T,R}$$

where

w_R is the radiation weighting factor for radiation quality R

$D_{T,R}$ is the average absorbed dose in a tissue or organ T caused by the radiation quality R.

If the radiation consists of more than one radiation quality with a different w_R-value, the equivalent dose H_T is:

$$H_T = \sum_R w_R D_{T,R}$$

4) *the equivalent dose rate* $\dot{H}_T$, which means the quotient of the growth dH_T of the equivalent dose on a particular time interval dt and this time interval:

$$\dot{H}_T = \frac{dH_T}{dt}$$

5) *the effective dose E,* which means the sum of the equivalent doses H_T multiplied by the tissue weighting factors w_T presented in Annex 2:

$$E = \sum_T w_T H_T = \sum_T w_T \sum_R w_R D_{T,R}$$

6) *the committed equivalent dose $H_T(\tau)$* of a tissue or organ T, which means the equivalent dose caused to this tissue or organ by a radioactive substance that has entered the body:

$$H_T(\tau) = \int_{t_0}^{t_0+\tau} \dot{H}_T(t)dt$$

where

$\dot{H}_T$ (t)	is the equivalent dose rate in tissue or organ T at time t
t_0	is the time of the intake.

The integration time τ calculated from the time of the intake is expressed in years. If no integration time is specified separately, it is assumed to be 50 years for adults and (70-n) years for children, where n is the age of the child.

7) *the committed effective dose $E(\tau)$,* which means the sum of the committed equivalent doses $H_T(\tau)$ multiplied by the tissue weighting factors w_T:

$$E(\tau) = \sum_T w_T H_T(\tau)$$

where

w_T	is the tissue weighting factor for tissue or organ T
$H_T(\tau)$	is the committed equivalent dose in tissue or organ T during time τ.

The time τ, over which the committed dose is determined, is 50 years for adults and (70-n) years for children, where n is the age of the child.

The committed effective dose based on the intake of the radioactive substance is determined as specified in Annex 3.

8) *the activity concentration c,* which means the activity A of a radioactive substance in the volume or mass under consideration, divided by the same volume V or mass m:

$$c = \frac{A}{V} \text{ or } c = \frac{A}{m}$$

where the activity A of a radionuclide is the number of spontaneous nuclear transformations dN taking place in the number of nuclides N under consideration in a time interval $dt,$ divided by this time interval:

$$A = \frac{dN}{dT}$$

The following units and symbols are used for the quantities of ionizing radiation:

Quantity	**Unit**	**Symbol and explanation**
absorbed dose rate	gray per time unit	Gy/h or Gy/min or Gy/s
average absorbed dose of a tissue or organ	gray	Gy. 1 Gy = 1 J kg^{-1}
equivalent dose	sievert	Sv. 1 Sv = 1 J kg^{-1}
equivalent dose rate	sievert per time unit	Sv/h or Sv/min or Sv/s
effective dose	sievert	Sv. 1 Sv = 1 J kg^{-1}
committed equivalent dose	sievert	Sv. 1 Sv = 1 J kg^{-1}
committed effective dose	sievert	Sv. 1 Sv = 1 J kg^{-1}
activity concentration	activity per volume element or activity per mass unit	Bq m^{-3} Bq kg^{-3}

ANNEX 2

The radiation weighting factors used in the calculation of the equivalent dose and the tissue weighting factors used in the calculation of the effective dose

1. The radiation weighting factors used in the calculation of the equivalent dose

The radiation weighting factors w_R, shown in Table 1, are used in the calculation of the equivalent dose.

Table 1. Radiation weighting factors w_R for different radiation qualities.

Radiation quality	w_R
Photons, all energies	1
Electrons and muons, all energies	1
Neutrons, energy (E_n)	
• less than 1 MeV	$2.5 + 18.2\, e^{-[ln(E_n)]^2/6}$
• at least 1 MeV and at most 50 MeV	$5.0 + 17.0\, e^{-[ln(2E_n)]^2/6}$
• more than 50 MeV	$2.5 + 3.25\, e^{-[ln(0{,}04E_n)]^2/6}$
Protons and charged pions	2
Alpha particles, fission fragments, heavy nuclei	20

2. The tissue weighting factors used in the calculation of the effective dose

The tissue weighting factors w_T, shown in Table 2, are used in the calculation of the effective dose. The factors are based on a reference population representing both genders equally and a wide age structure.

Table 2. Tissue weighting factors w_T.

Tissue or organ	w_T
Lung	0.12
Stomach	0.12
Colon	0.12
Bone marrow (red)	0.12
Breast	0.12
Gonads	0.08
Thyroid	0.04
Liver	0.04
Oesophagus	0.04
Bladder	0.04
Brain	0.01
Skin	0.01
Bone surface	0.01
Salivary glands	0.01
Remainder tissues*)	0.12

*) The weighting factor for remainder tissues w_T (0.12) means the arithmetically calculated mean dose, which is calculated, in terms of both genders, for the 13 organ and tissues in the following list: Other tissues: adrenals, extrathoracic region, gall bladder, heart, kidneys, lymphatic nodes, muscle, oral mucosa, pancreas, prostate (male), small intestine, spleen, thymus, uterus/cervix (female).

ANNEX 3

Determination of committed effective dose based on the intake of a radioactive substance and conversion factors and parameters used in the calculation

1. Determination of committed effective dose based on the intake of a radioactive substance

The committed effective dose attributable to a radionuclide which has entered the body through ingestion or inhalation is calculated, in terms of radionuclides other than noble gases, with the formula presented in section 1.1 and, in terms of noble gases, with the formulas presented in section 1.2. The conversion factors and parameters in the tables (A–H) must be used in the calculation of the committed effective dose.

1.1 Other than noble gases

The committed effective dose $E(\tau)$ of an individual in age group g is calculated from the following expression:

$$E(\tau) = \sum_j h(g)_{j,s} \cdot J_{j,s} + \sum_j h(g)_{j,h} \cdot J_{j,h}$$

where

$h(g)_{j,s}$ ja $h(g)_{j,h}$	are the dose conversion factors for a radionuclide j that has entered the body by ingestion (s) or inhalation (h) for an individual in age group g
$J_{j,s}$ ja $J_{j,h}$	are the intakes of radionuclide j that have entered the body by ingestion or inhalation.

The dose conversion factor h(g) means the committed effective dose per unit of *intake.* The unit for the conversion factor is Sv Bq^{-1}.

Intake means the activity of a radionuclide that has entered the body through the ingestion or inhalation of a radioactive substance. Intake does not account for any proportion of the radionuclide possibly exiting through exhalation.

1.2 Noble gases

The effective dose E for radon is calculated from the formula:

$E = h\, t\, C(AE)$

where

h	is the dose conversion factor for the decay products
t	is the exposure time
$C(AE)$	is the alpha energy concentration.

The unit for the exposure time is (h). The alpha energy concentration $C(AE)$ *is* the sum of the potential alpha energies of the daughter nuclide mixture arising from radon's decay chains per volume element. The unit of measurement for the alpha energy concentration is (J m^{-3}).

The alpha energy concentration $C(AE)$ can be estimated on the basis of the radon concentration $C(Rn)$ as follows:

$C(AE) = F \cdot C(Rn) \cdot 5.56 \cdot 10^{-9}\ J/Bq$

where the numerical value 0.4 is used for the equilibrium factor F, unless it is measured separately.

Other numerical values may be used for the equilibrium factor if the investigations carried out or international recommendations prove it justified in the situation in question.

The unit for the conversion factors of decay products *h* is Sv J^{-1} h^{-1} m^3. In dwellings and workplaces, the factor is given the value 3.

Other estimated numerical values may be used for the conversion factor if the investigations carried out or international recommendations prove it justified in the situation in question.

The effective dose *E* attributable to the external radiation produced by argon, krypton and xenon isotopes is calculated from the formula:

$$E = \sum_j h_j \cdot c_j \cdot t_j$$

where

h_j	is the dose conversion factor for the nuclide *j*
c_j	is the activity concentration for the nuclide *j* or the mean of the concentration during the exposure time
t_j	is the exposure time for the nuclide *j.*

Table *H* of the Annex gives the values of the conversion factors h_j for the isotopes of argon, krypton and xenon. The unit for the conversion factors is (Sv d^{-1} Bq^{-1} m^3).

2. Conversion factors and parameters used in the calculation of the committed effective dose

TABLE A	Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested radionuclides for members of the public.
TABLE B	Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for inhaled radionuclides for members of the public.
TABLE C1	Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested or inhaled radionuclides for exposed workers.
TABLE C2	Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for inhaled soluble or reactive gases and vapours for exposed workers.
TABLE D	Values of gut transfer factors f_1, by element and compound, for ingested substances for exposed workers. The factors may also be applied to members of the public.
TABLE E	Lung absorption types and values of gut transfer factors f_1, by element and compound, for inhaled substances for exposed workers.
TABLE F	Literature references to lung absorption types for inhaled elements and compounds for members of the public.
TAULUKKO G	Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for inhaled soluble orreactive gases and vapours for members of the public.
TAULUKKO H	Values of conversion factors *hj* (Sv·d^{-1}·Bq^{-1}·m^3) for the effective dosecaused by the noble gases argon, krypton and xenon for adults.

TABLE A

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
		f_1 for $g \le 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Hydrogen									
Tritiated water	12.3 a	1.000	6.4 10^{-11}	1.000	4.8 10^{-11}	3.1 10^{-11}	2.3 10^{-11}	1.8 10^{-11}	1.8 10^{-11}
OBT [1)]	12.3 a	1.000	1.2 10^{-10}	1.000	1.2 10^{-10}	7.3 10^{-11}	5.7 10^{-11}	4.2 10^{-11}	4.2 10^{-11}
Beryllium									
Be-7	53.3 d	0.020	1.8 10^{-10}	0.005	1.3 10^{-10}	7.7 10^{-11}	5.3 10^{-11}	3.5 10^{-11}	2.8 10^{-11}
Be-10	1.60 10^{6} a	0.020	1.4 10^{-8}	0.005	8.0 10^{-9}	4.1 10^{-9}	2.4 10^{-9}	1.4 10^{-9}	1.1 10^{-9}
Carbon									
C-11	0.340 h	1.000	2.6 10^{-10}	1.000	1.5 10^{-10}	7.3 10^{-11}	4.3 10^{-11}	3.0 10^{-11}	2.4 10^{-11}
C-14	5.73 10^{3} a	1.000	1.4 10^{-9}	1.000	1.6 10^{-9}	9.9 10^{-10}	8.0 10^{-10}	5.7 10^{-10}	5.8 10^{-10}
Fluorine									
F-18	1.83 h	1.000	5.2 10^{-10}	1.000	3.0 10^{-10}	1.5 10^{-10}	9.1 10^{-11}	6.2 10^{-11}	4.9 10^{-11}
Sodium									
Na-22	2.60 a	1.000	2.1 10^{-8}	1.000	1.5 10^{-8}	8.4 10^{-9}	5.5 10^{-9}	3.7 10^{-9}	3.2 10^{-9}
Na-24	15.0 h	1.000	3.5 10^{-9}	1.000	2.3 10^{-9}	1.2 10^{-9}	7.7 10^{-10}	5.2 10^{-10}	4.3 10^{-10}
Magnesium									
Mg-28	20.9 h	1.000	1.2 10^{-8}	0.500	1.4 10^{-8}	7.4 10^{-9}	4.5 10^{-9}	2.7 10^{-9}	2.2 10^{-9}
Aluminium									
Al-26	7.16 10^{5} a	0.020	3.4 10^{-8}	0.010	2.1 10^{-8}	1.1 10^{-8}	7.1 10^{-9}	4.3 10^{-9}	3.5 10^{-9}
Silicon									
Si-31	2.62 h	0.020	1.9 10^{-9}	0.010	1.0 10^{-9}	5.1 10^{-10}	3.0 10^{-10}	1.8 10^{-10}	1.6 10^{-10}
Si-32	4.50 10^{2} a	0.020	7.3 10^{-9}	0.010	4.1 10^{-9}	2.0 10^{-9}	1.2 10^{-9}	7.0 10^{-10}	5.6 10^{-10}
Phosphorus									
P-32	14.3 d	1.000	3.1 10^{-8}	0.800	1.9 10^{-8}	9.4 10^{-9}	5.3 10^{-9}	3.1 10^{-9}	2.4 10^{-9}
P-33	25.4 d	1.000	2.7 10^{-9}	0.800	1.8 10^{-9}	9.1 10^{-10}	5.3 10^{-10}	3.1 10^{-10}	2.4 10^{-10}
Sulphur									
S-35 (inorganic)	87.4 d	1.000	1.3 10^{-9}	1.000	8.7 10^{-10}	4.4 10^{-10}	2.7 10^{-10}	1.6 10^{-10}	1.3 10^{-10}
S-35 (organic)	87.4 d	1.000	7.7 10^{-9}	1.000	5.4 10^{-9}	2.7 10^{-9}	1.6 10^{-9}	9.5 10^{-10}	7.7 10^{-10}
Clorine									
Cl-36	3.01 10^{5} a	1.000	9.8 10^{-9}	1.000	6.3 10^{-9}	3.2 10^{-9}	1.9 10^{-9}	1.2 10^{-9}	9.3 10^{-10}
Cl-38	0.620 h	1.000	1.4 10^{-9}	1.000	7.7 10^{-10}	3.8 10^{-10}	2.2 10^{-10}	1.5 10^{-10}	1.2 10^{-10}
Cl-39	0.927 h	1.000	9.7 10^{-10}	1.000	5.5 10^{-10}	2.7 10^{-10}	1.6 10^{-10}	1.1 10^{-10}	8.5 10^{-11}
Potassium									
K-40	1.28 10^{9} a	1.000	6.2 10^{-8}	1.000	4.2 10^{-8}	2.1 10^{-8}	1.3 10^{-8}	7.6 10^{-9}	6.2 10^{-9}
K-42	12.4 h	1.000	5.1 10^{-9}	1.000	3.0 10^{-9}	1.5 10^{-9}	8.6 10^{-10}	5.4 10^{-10}	4.3 10^{-10}
K-43	22.6 h	1.000	2.3 10^{-9}	1.000	1.4 10^{-9}	7.6 10^{-10}	4.7 10^{-10}	3.0 10^{-10}	2.5 10^{-10}
K-44	0.369 h	1.000	1.0 10^{-9}	1.000	5.5 10^{-10}	2.7 10^{-10}	1.6 10^{-10}	1.1 10^{-10}	8.4 10^{-11}
K-45	0.333 h	1.000	6.2 10^{-10}	1.000	3.5 10^{-10}	1.7 10^{-10}	9.9 10^{-11}	6.8 10^{-11}	5.4 10^{-11}
Calcium [2)]									
Ca-41	1.40 10^{5} a	0.600	1.2 10^{-9}	0.300	5.2 10^{-10}	3.9 10^{-10}	4.8 10^{-10}	5.0 10^{-10}	1.9 10^{-10}
Ca-45	163 d	0.600	1.1 10^{-8}	0.300	4.9 10^{-9}	2.6 10^{-9}	1.8 10^{-9}	1.3 10^{-9}	7.1 10^{-10}
Ca-47	4.53 d	0.600	1.3 10^{-8}	0.300	9.3 10^{-9}	4.9 10^{-9}	3.0 10^{-9}	1.8 10^{-9}	1.6 10^{-9}
Scandium									
Sc-43	3.89 h	0.001	1.8 10^{-9}	1.0 10^{-4}	1.2 10^{-9}	6.1 10^{-10}	3.7 10^{-10}	2.3 10^{-10}	1.9 10^{-10}
Sc-44	3.93 h	0.001	3.5 10^{-9}	1.0 10^{-4}	2.2 10^{-9}	1.2 10^{-9}	7.1 10^{-10}	4.4 10^{-10}	3.5 10^{-10}
Sc-44m	2.44 d	0.001	2.4 10^{-8}	1.0 10^{-4}	1.6 10^{-8}	8.3 10^{-9}	5.1 10^{-9}	3.1 10^{-9}	2.4 10^{-9}
Sc-46	83.8 d	0.001	1.1 10^{-8}	1.0 10^{-4}	7.9 10^{-9}	4.4 10^{-9}	2.9 10^{-9}	1.8 10^{-9}	1.5 10^{-9}
Sc-47	3.35 d	0.001	6.1 10^{-9}	1.0 10^{-4}	3.9 10^{-9}	2.0 10^{-9}	1.2 10^{-9}	6.8 10^{-10}	5.4 10^{-10}

[1)] OBT = organically bound tritium.

[2)] The value of f_1 for 1 to 15 year olds is 0.4.

TABLE A (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
		f_1 for g ≤ 1 a	h(g)	f_1 for g > 1 a	h(g)	h(g)	h(g)	h(g)	h(g)
Sc-48	1.82 d	0.001	1.3 10^{-8}	1.0 10^{-4}	9.3 10^{-9}	5.1 10^{-9}	3.3 10^{-9}	2.1 10^{-9}	1.7 10^{-9}
Sc-49	0.956 h	0.001	1.0 10^{-9}	1.0 10^{-4}	5.7 10^{-10}	2.8 10^{-10}	1.6 10^{-10}	1.0 10^{-10}	8.2 10^{-11}
Titanium									
Ti-44	47.3 a	0.020	5.5 10^{-8}	0.010	3.1 10^{-8}	1.7 10^{-8}	1.1 10^{-8}	6.9 10^{-9}	5.8 10^{-9}
Ti-45	3.08 h	0.020	1.6 10^{-9}	0.010	9.8 10^{-10}	5.0 10^{-10}	3.1 10^{-10}	1.9 10^{-10}	1.5 10^{-10}
Vanadium									
V-47	0.543 h	0.020	7.3 10^{-10}	0.010	4.1 10^{-10}	2.0 10^{-10}	1.2 10^{-10}	8.0 10^{-11}	6.3 10^{-11}
V-48	16.2 d	0.020	1.5 10^{-8}	0.010	1.1 10^{-8}	5.9 10^{-9}	3.9 10^{-9}	2.5 10^{-9}	2.0 10^{-9}
V-49	330 d	0.020	2.2 10^{-10}	0.010	1.4 10^{-10}	6.9 10^{-11}	4.0 10^{-11}	2.3 10^{-11}	1.8 10^{-11}
Chromium									
Cr-48	23.0 h	0.200	1.4 10^{-9}	0.100	9.9 10^{-10}	5.7 10^{-10}	3.8 10^{-10}	2.5 10^{-10}	2.0 10^{-10}
		0.020	1.4 10^{-9}	0.010	9.9 10^{-10}	5.7 10^{-10}	3.8 10^{-10}	2.5 10^{-10}	2.0 10^{-10}
Cr-49	0.702 h	0.200	6.8 10^{-10}	0.100	3.9 10^{-10}	2.0 10^{-10}	1.1 10^{-10}	7.7 10^{-11}	6.1 10^{-11}
		0.020	6.8 10^{-10}	0.010	3.9 10^{-10}	2.0 10^{-10}	1.1 10^{-10}	7.7 10^{-11}	6.1 10^{-11}
Cr-51	27.7 d	0.200	3.5 10^{-10}	0.100	2.3 10^{-10}	1.2 10^{-10}	7.8 10^{-11}	4.8 10^{-11}	3.8 10^{-11}
		0.020	3.3 10^{-10}	0.010	2.2 10^{-10}	1.2 10^{-10}	7.5 10^{-11}	4.6 10^{-11}	3.7 10^{-11}
Manganese									
Mn-51	0.770 h	0.200	1.1 10^{-9}	0.100	6.1 10^{-10}	3.0 10^{-10}	1.8 10^{-10}	1.2 10^{-10}	9.3 10^{-11}
Mn-52	5.59 d	0.200	1.2 10^{-8}	0.100	8.8 10^{-9}	5.1 10^{-9}	3.4 10^{-9}	2.2 10^{-9}	1.8 10^{-9}
Mn-52m	0.352 h	0.200	7.8 10^{-10}	0.100	4.4 10^{-10}	2.2 10^{-10}	1.3 10^{-10}	8.8 10^{-11}	6.9 10^{-11}
Mn-53	3.70 10^{6} a	0.200	4.1 10^{-10}	0.100	2.2 10^{-10}	1.1 10^{-10}	6.5 10^{-11}	3.7 10^{-11}	3.0 10^{-11}
Mn-54	312 d	0.200	5.4 10^{-9}	0.100	3.1 10^{-9}	1.9 10^{-9}	1.3 10^{-9}	8.7 10^{-10}	7.1 10^{-10}
Mn-56	2.58 h	0.200	2.7 10^{-9}	0.100	1.7 10^{-9}	8.5 10^{-10}	5.1 10^{-10}	3.2 10^{-10}	2.5 10^{-10}
Iron [3)]									
Fe-52	8.28 h	0.600	1.3 10^{-8}	0.100	9.1 10^{-9}	4.6 10^{-9}	2.8 10^{-9}	1.7 10^{-9}	1.4 10^{-9}
Fe-55	2.70 a	0.600	7.6 10^{-9}	0.100	2.4 10^{-9}	1.7 10^{-9}	1.1 10^{-9}	7.7 10^{-10}	3.3 10^{-10}
Fe-59	44.5 d	0.600	3.9 10^{-8}	0.100	1.3 10^{-8}	7.5 10^{-9}	4.7 10^{-9}	3.1 10^{-9}	1.8 10^{-9}
Fe-60	1.00 10^{5} a	0.600	7.9 10^{-7}	0.100	2.7 10^{-7}	2.7 10^{-7}	2.5 10^{-7}	2.3 10^{-7}	1.1 10^{-7}
Cobalt [4)]									
Co-55	17.5 h	0.600	6.0 10^{-9}	0.100	5.5 10^{-9}	2.9 10^{-9}	1.8 10^{-9}	1.1 10^{-9}	1.0 10^{-9}
Co-56	78.7 d	0.600	2.5 10^{-8}	0.100	1.5 10^{-8}	8.8 10^{-9}	5.8 10^{-9}	3.8 10^{-9}	2.5 10^{-9}
Co-57	271 d	0.600	2.9 10^{-9}	0.100	1.6 10^{-9}	8.9 10^{-10}	5.8 10^{-10}	3.7 10^{-10}	2.1 10^{-10}
Co-58	70.8 d	0.600	7.3 10^{-9}	0.100	4.4 10^{-9}	2.6 10^{-9}	1.7 10^{-9}	1.1 10^{-9}	7.4 10^{-10}
Co-58m	9.15 h	0.600	2.0 10^{-10}	0.100	1.5 10^{-10}	7.8 10^{-11}	4.7 10^{-11}	2.8 10^{-11}	2.4 10^{-11}
Co-60	5.27 a	0.600	5.4 10^{-8}	0.100	2.7 10^{-8}	1.7 10^{-8}	1.1 10^{-8}	7.9 10^{-9}	3.4 10^{-9}
Co-60m	0.174 h	0.600	2.2 10^{-11}	0.100	1.2 10^{-11}	5.7 10^{-12}	3.2 10^{-12}	2.2 10^{-12}	1.7 10^{-12}
Co-61	1.65 h	0.600	8.2 10^{-10}	0.100	5.1 10^{-10}	2.5 10^{-10}	1.4 10^{-10}	9.2 10^{-11}	7.4 10^{-11}
Co-62m	0.232 h	0.600	5.3 10^{-10}	0.100	3.0 10^{-10}	1.5 10^{-10}	8.7 10^{-11}	6.0 10^{-11}	4.7 10^{-11}
Nickel									
Ni-56	6.10 d	0.100	5.3 10^{-9}	0.050	4.0 10^{-9}	2.3 10^{-9}	1.6 10^{-9}	1.1 10^{-9}	8.6 10^{-10}
Ni-57	1.50 d	0.100	6.8 10^{-9}	0.050	4.9 10^{-9}	2.7 10^{-9}	1.7 10^{-9}	1.1 10^{-9}	8.7 10^{-10}
Ni-59	7.50 10^{4} a	0.100	6.4 10^{-10}	0.050	3.4 10^{-10}	1.9 10^{-10}	1.1 10^{-10}	7.3 10^{-11}	6.3 10^{-11}
Ni-63	96.0 a	0.100	1.6 10^{-9}	0.050	8.4 10^{-10}	4.6 10^{-10}	2.8 10^{-10}	1.8 10^{-10}	1.5 10^{-10}
Ni-65	2.52 h	0.100	2.1 10^{-9}	0.050	1.3 10^{-9}	6.3 10^{-10}	3.8 10^{-10}	2.3 10^{-10}	1.8 10^{-10}
Ni-66	2.27 d	0.100	3.3 10^{-8}	0.050	2.2 10^{-8}	1.1 10^{-8}	6.6 10^{-9}	3.7 10^{-9}	3.0 10^{-9}
Copper									
Cu-60	0.387 h	1.000	7.0 10^{-10}	0.500	4.2 10^{-10}	2.2 10^{-10}	1.3 10^{-10}	8.9 10^{-11}	7.0 10^{-11}
Cu-61	3.41 h	1.000	7.1 10^{-10}	0.500	7.5 10^{-10}	3.9 10^{-10}	2.3 10^{-10}	1.5 10^{-10}	1.2 10^{-10}
Cu-64	12.7 h	1.000	5.2 10^{-10}	0.500	8.3 10^{-10}	4.2 10^{-10}	2.5 10^{-10}	1.5 10^{-10}	1.2 10^{-10}
Cu-67	2.58 d	1.000	2.1 10^{-9}	0.500	2.4 10^{-9}	1.2 10^{-9}	7.2 10^{-10}	4.2 10^{-10}	3.4 10^{-10}
Zinc									
Zn-62	9.26 h	1.000	4.2 10^{-9}	0.500	6.5 10^{-9}	3.3 10^{-9}	2.0 10^{-9}	1.2 10^{-9}	9.4 10^{-10}
Zn-63	0.635 h	1.000	8.7 10^{-10}	0.500	5.2 10^{-10}	2.6 10^{-10}	1.5 10^{-10}	1.0 10^{-10}	7.9 10^{-11}
Zn-65	244 d	1.000	3.6 10^{-8}	0.500	1.6 10^{-8}	9.7 10^{-9}	6.4 10^{-9}	4.5 10^{-9}	3.9 10^{-9}

3) The value of f_1 for 1 to 15 year olds is 0.2.

4) The value of f_1 for 1 to 15 year olds is 0.3.

TABLE A (continues)

Values of dose conversion factors *h(g)* ($Sv \cdot Bq^{-1}$) for ingested radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
		f_1 for $g \le 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Zn-69	0.950 h	1.000	$3.5\ 10^{-10}$	0.500	$2.2\ 10^{-10}$	$1.1\ 10^{-10}$	$6.0\ 10^{-11}$	$3.9\ 10^{-11}$	$3.1\ 10^{-11}$
Zn-69m	13.8 h	1.000	$1.3\ 10^{-9}$	0.500	$2.3\ 10^{-9}$	$1.2\ 10^{-9}$	$7.0\ 10^{-10}$	$4.1\ 10^{-10}$	$3.3\ 10^{-10}$
Zn-71m	3.92 h	1.000	$1.4\ 10^{-9}$	0.500	$1.5\ 10^{-9}$	$7.8\ 10^{-10}$	$4.8\ 10^{-10}$	$3.0\ 10^{-10}$	$2.4\ 10^{-10}$
Zn-72	1.94 d	1.000	$8.7\ 10^{-9}$	0.500	$8.6\ 10^{-9}$	$4.5\ 10^{-9}$	$2.8\ 10^{-9}$	$1.7\ 10^{-9}$	$1.4\ 10^{-9}$
Gallium									
Ga-65	0.253 h	0.010	$4.3\ 10^{-10}$	0.001	$2.4\ 10^{-10}$	$1.2\ 10^{-10}$	$6.9\ 10^{-11}$	$4.7\ 10^{-11}$	$3.7\ 10^{-11}$
Ga-66	9.40 h	0.010	$1.2\ 10^{-8}$	0.001	$7.9\ 10^{-9}$	$4.0\ 10^{-9}$	$2.5\ 10^{-9}$	$1.5\ 10^{-9}$	$1.2\ 10^{-9}$
Ga-67	3.26 d	0.010	$1.8\ 10^{-9}$	0.001	$1.2\ 10^{-9}$	$6.4\ 10^{-10}$	$4.0\ 10^{-10}$	$2.4\ 10^{-10}$	$1.9\ 10^{-10}$
Ga-68	1.13 h	0.010	$1.2\ 10^{-9}$	0.001	$6.7\ 10^{-10}$	$3.4\ 10^{-10}$	$2.0\ 10^{-10}$	$1.3\ 10^{-10}$	$1.0\ 10^{-10}$
Ga-70	0.353 h	0.010	$3.9\ 10^{-10}$	0.001	$2.2\ 10^{-10}$	$1.0\ 10^{-10}$	$5.9\ 10^{-11}$	$4.0\ 10^{-11}$	$3.1\ 10^{-11}$
Ga-72	14.1 h	0.010	$1.0\ 10^{-8}$	0.001	$6.8\ 10^{-9}$	$3.6\ 10^{-9}$	$2.2\ 10^{-9}$	$1.4\ 10^{-9}$	$1.1\ 10^{-9}$
Ga-73	4.91 h	0.010	$3.0\ 10^{-9}$	0.001	$1.9\ 10^{-9}$	$9.3\ 10^{-10}$	$5.5\ 10^{-10}$	$3.3\ 10^{-10}$	$2.6\ 10^{-10}$
Germanium									
Ge-66	2.27 h	1.000	$8.3\ 10^{-10}$	1.000	$5.3\ 10^{-10}$	$2.9\ 10^{-10}$	$1.9\ 10^{-10}$	$1.3\ 10^{-10}$	$1.0\ 10^{-10}$
Ge-67	0.312 h	1.000	$7.7\ 10^{-10}$	1.000	$4.2\ 10^{-10}$	$2.1\ 10^{-10}$	$1.2\ 10^{-10}$	$8.2\ 10^{-11}$	$6.5\ 10^{-11}$
Ge-68	288 d	1.000	$1.2\ 10^{-8}$	1.100	$8.0\ 10^{-9}$	$4.2\ 10^{-9}$	$2.6\ 10^{-9}$	$1.6\ 10^{-9}$	$1.3\ 10^{-9}$
Ge-69	1.63 d	1.000	$2.0\ 10^{-9}$	1.000	$1.3\ 10^{-9}$	$7.1\ 10^{-10}$	$4.6\ 10^{-10}$	$3.0\ 10^{-10}$	$2.4\ 10^{-10}$
Ge-71	11.8 d	1.000	$1.2\ 10^{-10}$	1.000	$7.8\ 10^{-11}$	$4.0\ 10^{-11}$	$2.4\ 10^{-11}$	$1.5\ 10^{-11}$	$1.2\ 10^{-11}$
Ge-75	1.38 h	1.000	$5.5\ 10^{-10}$	1.000	$3.1\ 10^{-10}$	$1.5\ 10^{-10}$	$8.7\ 10^{-11}$	$5.9\ 10^{-11}$	$4.6\ 10^{-11}$
Ge-77	11.3 h	1.000	$3.0\ 10^{-9}$	1.000	$1.8\ 10^{-9}$	$9.9\ 10^{-10}$	$6.2\ 10^{-10}$	$4.1\ 10^{-10}$	$3.3\ 10^{-10}$
Ge-78	1.45 h	1.000	$1.2\ 10^{-9}$	1.000	$7.0\ 10^{-10}$	$3.6\ 10^{-10}$	$2.2\ 10^{-10}$	$1.5\ 10^{-10}$	$1.2\ 10^{-10}$
Arsenic									
As-69	0.253 h	1.000	$6.6\ 10^{-10}$	0.500	$3.7\ 10^{-10}$	$1.8\ 10^{-10}$	$1.1\ 10^{-10}$	$7.2\ 10^{-11}$	$5.7\ 10^{-11}$
As-70	0.876 h	1.000	$1.2\ 10^{-9}$	0.500	$7.8\ 10^{-10}$	$4.1\ 10^{-10}$	$2.5\ 10^{-10}$	$1.7\ 10^{-10}$	$1.3\ 10^{-10}$
As-71	2.70 d	1.000	$2.8\ 10^{-9}$	0.500	$2.8\ 10^{-9}$	$1.5\ 10^{-9}$	$9.3\ 10^{-10}$	$5.7\ 10^{-10}$	$4.6\ 10^{-10}$
As-72	1.08 d	1.000	$1.1\ 10^{-8}$	0.500	$1.2\ 10^{-8}$	$6.3\ 10^{-9}$	$3.8\ 10^{-9}$	$2.3\ 10^{-9}$	$1.8\ 10^{-9}$
As-73	80.3 d	1.000	$2.6\ 10^{-9}$	0.500	$1.9\ 10^{-9}$	$9.3\ 10^{-10}$	$5.6\ 10^{-10}$	$3.2\ 10^{-10}$	$2.6\ 10^{-10}$
As-74	17.8 d	1.000	$1.0\ 10^{-8}$	0.500	$8.2\ 10^{-9}$	$4.3\ 10^{-9}$	$2.6\ 10^{-9}$	$1.6\ 10^{-9}$	$1.3\ 10^{-9}$
As-76	1.10 d	1.000	$1.0\ 10^{-8}$	0.500	$1.1\ 10^{-8}$	$5.8\ 10^{-9}$	$3.4\ 10^{-9}$	$2.0\ 10^{-9}$	$1.6\ 10^{-9}$
As-77	1.62 d	1.000	$2.7\ 10^{-9}$	0.500	$2.9\ 10^{-9}$	$1.5\ 10^{-9}$	$8.7\ 10^{-10}$	$5.0\ 10^{-10}$	$4.0\ 10^{-10}$
As-78	1.51 h	1.000	$2.0\ 10^{-9}$	0.500	$1.4\ 10^{-9}$	$7.0\ 10^{-10}$	$4.1\ 10^{-10}$	$2.7\ 10^{-10}$	$2.1\ 10^{-10}$
Selenium									
Se-70	0.683 h	1.000	$1.0\ 10^{-9}$	0.800	$7.1\ 10^{-10}$	$3.6\ 10^{-10}$	$2.2\ 10^{-10}$	$1.5\ 10^{-10}$	$1.2\ 10^{-10}$
Se-73	7.15 h	1.000	$1.6\ 10^{-9}$	0.800	$1.4\ 10^{-9}$	$7.4\ 10^{-10}$	$4.8\ 10^{-10}$	$2.5\ 10^{-10}$	$2.1\ 10^{-10}$
Se-73m	0.650 h	1.000	$2.6\ 10^{-10}$	0.800	$1.8\ 10^{-10}$	$9.5\ 10^{-11}$	$5.9\ 10^{-11}$	$3.5\ 10^{-11}$	$2.8\ 10^{-11}$
Se-75	120 d	1.000	$2.0\ 10^{-8}$	0.800	$1.3\ 10^{-8}$	$8.3\ 10^{-9}$	$6.0\ 10^{-9}$	$3.1\ 10^{-9}$	$2.6\ 10^{-9}$
Se-79	$6.50\ 10^{4}$ a	1.000	$4.1\ 10^{-8}$	0.800	$2.8\ 10^{-8}$	$1.9\ 10^{-8}$	$1.4\ 10^{-8}$	$4.1\ 10^{-9}$	$2.9\ 10^{-9}$
Se-81	0.308 h	1.000	$3.4\ 10^{-10}$	0.800	$1.9\ 10^{-10}$	$9.0\ 10^{-11}$	$5.1\ 10^{-11}$	$3.4\ 10^{-11}$	$2.7\ 10^{-11}$
Se-81m	0.954 h	1.000	$6.0\ 10^{-10}$	0.800	$3.7\ 10^{-10}$	$1.8\ 10^{-10}$	$1.1\ 10^{-10}$	$6.7\ 10^{-11}$	$5.3\ 10^{-11}$
Se-83	0.375 h	1.000	$4.6\ 10^{-10}$	0.800	$2.9\ 10^{-10}$	$1.5\ 10^{-10}$	$8.7\ 10^{-11}$	$5.9\ 10^{-11}$	$4.7\ 10^{-11}$
Bromine									
Br-74	0.422 h	1.000	$9.0\ 10^{-10}$	1.000	$5.2\ 10^{-10}$	$2.6\ 10^{-10}$	$1.5\ 10^{-10}$	$1.1\ 10^{-10}$	$8.4\ 10^{-11}$
Br-74m	0.691 h	1.000	$1.5\ 10^{-9}$	1.000	$8.5\ 10^{-10}$	$4.3\ 10^{-10}$	$2.5\ 10^{-10}$	$1.7\ 10^{-10}$	$1.4\ 10^{-10}$
Br-75	1.63 h	1.000	$8.5\ 10^{-10}$	1.000	$4.9\ 10^{-10}$	$2.5\ 10^{-10}$	$1.5\ 10^{-10}$	$9.9\ 10^{-11}$	$7.9\ 10^{-11}$
Br-76	16.2 h	1.000	$4.2\ 10^{-9}$	1.000	$2.7\ 10^{-9}$	$1.4\ 10^{-9}$	$8.7\ 10^{-10}$	$5.6\ 10^{-10}$	$4.6\ 10^{-10}$
Br-77	2.33 d	1.000	$6.3\ 10^{-10}$	1.000	$4.4\ 10^{-10}$	$2.5\ 10^{-10}$	$1.7\ 10^{-10}$	$1.1\ 10^{-10}$	$9.6\ 10^{-11}$
Br-80	0.290 h	1.000	$3.9\ 10^{-10}$	1.000	$2.1\ 10^{-10}$	$1.0\ 10^{-10}$	$5.8\ 10^{-11}$	$3.9\ 10^{-11}$	$3.1\ 10^{-11}$
Br-80m	4.42 h	1.000	$1.4\ 10^{-9}$	1.000	$8.0\ 10^{-10}$	$3.9\ 10^{-10}$	$2.3\ 10^{-10}$	$1.4\ 10^{-10}$	$1.1\ 10^{-10}$
Br-82	1.47 d	1.000	$3.7\ 10^{-9}$	1.000	$2.6\ 10^{-9}$	$1.5\ 10^{-9}$	$9.5\ 10^{-10}$	$6.4\ 10^{-10}$	$5.4\ 10^{-10}$
Br-83	2.39 h	1.000	$5.3\ 10^{-10}$	1.000	$3.0\ 10^{-10}$	$1.4\ 10^{-10}$	$8.3\ 10^{-11}$	$5.5\ 10^{-11}$	$4.3\ 10^{-11}$
Br-84	0.530 h	1.000	$1.0\ 10^{-9}$	1.000	$5.8\ 10^{-10}$	$2.8\ 10^{-10}$	$1.6\ 10^{-10}$	$1.1\ 10^{-10}$	$8.8\ 10^{-11}$
Rubidium									
Rb-79	0.382 h	1.000	$5.7\ 10^{-10}$	1.000	$3.2\ 10^{-10}$	$1.6\ 10^{-10}$	$9.2\ 10^{-11}$	$6.3\ 10^{-11}$	$5.0\ 10^{-11}$
Rb-81	4.58 h	1.000	$5.4\ 10^{-10}$	1.000	$3.2\ 10^{-10}$	$1.6\ 10^{-10}$	$1.0\ 10^{-10}$	$6.7\ 10^{-11}$	$5.4\ 10^{-11}$
Rb-81m	0.533 h	1.000	$1.1\ 10^{-10}$	1.000	$6.2\ 10^{-11}$	$3.1\ 10^{-11}$	$1.8\ 10^{-11}$	$1.2\ 10^{-11}$	$9.7\ 10^{-12}$
Rb-82m	6.20 h	1.000	$8.7\ 10^{-10}$	1.000	$5.9\ 10^{-10}$	$3.4\ 10^{-10}$	$2.2\ 10^{-10}$	$1.5\ 10^{-10}$	$1.3\ 10^{-10}$
Rb-83	86.2 d	1.000	$1.1\ 10^{-8}$	1.000	$8.4\ 10^{-9}$	$4.9\ 10^{-9}$	$3.2\ 10^{-9}$	$2.2\ 10^{-9}$	$1.9\ 10^{-9}$
Rb-84	32.8 d	1.000	$2.0\ 10^{-8}$	1.000	$1.4\ 10^{-8}$	$7.9\ 10^{-9}$	$5.0\ 10^{-9}$	$3.3\ 10^{-9}$	$2.8\ 10^{-9}$
Rb-86	18.7 d	1.000	$3.1\ 10^{-8}$	1.000	$2.0\ 10^{-8}$	$9.9\ 10^{-9}$	$5.9\ 10^{-9}$	$3.5\ 10^{-9}$	$2.8\ 10^{-9}$
Rb-87	$4.70\ 10^{10}$ a	1.000	$1.5\ 10^{-8}$	1.000	$1.0\ 10^{-8}$	$5.2\ 10^{-9}$	$3.1\ 10^{-9}$	$1.8\ 10^{-9}$	$1.5\ 10^{-9}$

TABLE A (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
		f_1 for $g \leq 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Rb-88	0.297 h	1.000	1.1 10^{-9}	1.000	6.2 10^{-10}	3.0 10^{-10}	1.7 10^{-10}	1.2 10^{-10}	9.0 10^{-11}
Rb-89	0.253 h	1.000	5.4 10^{-10}	1.000	3.0 10^{-10}	1.5 10^{-10}	8.6 10^{-11}	5.9 10^{-11}	4.7 10^{-11}
Strontium [5)]									
Sr-80	1.67 h	0.600	3.7 10^{-9}	0.300	2.3 10^{-9}	1.1 10^{-9}	6.5 10^{-10}	4.2 10^{-10}	3.4 10^{-10}
Sr-81	0.425 h	0.600	8.4 10^{-10}	0.300	4.9 10^{-10}	2.4 10^{-10}	1.4 10^{-10}	9.6 10^{-11}	7.7 10^{-11}
Sr-82	25.0 d	0.600	7.2 10^{-8}	0.300	4.1 10^{-8}	2.1 10^{-8}	1.3 10^{-8}	8.7 10^{-9}	6.1 10^{-9}
Sr-83	1.35 d	0.600	3.4 10^{-9}	0.300	2.7 10^{-9}	1.4 10^{-9}	9.1 10^{-10}	5.7 10^{-10}	4.9 10^{-10}
Sr-85	64.8 d	0.600	7.7 10^{-9}	0.300	3.1 10^{-9}	1.7 10^{-9}	1.5 10^{-9}	1.3 10^{-9}	5.6 10^{-10}
Sr-85m	1.16 h	0.600	4.5 10^{-11}	0.300	3.0 10^{-11}	1.7 10^{-11}	1.1 10^{-11}	7.8 10^{-12}	6.1 10^{-12}
Sr-87m	2.80 h	0.600	2.4 10^{-10}	0.300	1.7 10^{-10}	9.0 10^{-11}	5.6 10^{-11}	3.6 10^{-11}	3.0 10^{-11}
Sr-89	50.5 d	0.600	3.6 10^{-8}	0.300	1.8 10^{-8}	8.9 10^{-9}	5.8 10^{-9}	4.0 10^{-9}	2.6 10^{-9}
Sr-90	29.1 a	0.600	2.3 10^{-7}	0.300	7.3 10^{-8}	4.7 10^{-8}	6.0 10^{-8}	8.0 10^{-8}	2.8 10^{-8}
Sr-91	9.50 h	0.600	5.2 10^{-9}	0.300	4.0 10^{-9}	2.1 10^{-9}	1.2 10^{-9}	7.4 10^{-10}	6.5 10^{-10}
Sr-92	2.71 h	0.600	3.4 10^{-9}	0.300	2.7 10^{-9}	1.4 10^{-9}	8.2 10^{-10}	4.8 10^{-10}	4.3 10^{-10}
Yttrium									
Y-86	14.7 h	0.001	7.6 10^{-9}	1.0 10^{-4}	5.2 10^{-9}	2.9 10^{-9}	1.9 10^{-9}	1.2 10^{-9}	9.6 10^{-10}
Y-86m	0.800 h	0.001	4.5 10^{-10}	1.0 10^{-4}	3.1 10^{-10}	1.7 10^{-10}	1.1 10^{-10}	7.1 10^{-11}	5.6 10^{-11}
Y-87	3.35 d	0.001	4.6 10^{-9}	1.0 10^{-4}	3.2 10^{-9}	1.8 10^{-9}	1.1 10^{-9}	7.0 10^{-10}	5.5 10^{-10}
Y-88	107 d	0.001	8.1 10^{-9}	1.0 10^{-4}	6.0 10^{-9}	3.5 10^{-9}	2.4 10^{-9}	1.6 10^{-9}	1.3 10^{-9}
Y-90	2.67 d	0.001	3.1 10^{-8}	1.0 10^{-4}	2.0 10^{-8}	1.0 10^{-8}	5.9 10^{-9}	3.3 10^{-9}	2.7 10^{-9}
Y-90m	3.19 h	0.001	1.8 10^{-9}	1.0 10^{-4}	1.2 10^{-9}	6.1 10^{-10}	3.7 10^{-10}	2.2 10^{-10}	1.7 10^{-10}
Y-91	58.5 d	0.001	2.8 10^{-8}	1.0 10^{-4}	1.8 10^{-8}	8.8 10^{-9}	5.2 10^{-9}	2.9 10^{-9}	2.4 10^{-9}
Y-91m	0.828 h	0.001	9.2 10^{-11}	1.0 10^{-4}	6.0 10^{-11}	3.3 10^{-11}	2.1 10^{-11}	1.4 10^{-11}	1.1 10^{-11}
Y-92	3.54 h	0.001	5.9 10^{-9}	1.0 10^{-4}	3.6 10^{-9}	1.8 10^{-9}	1.0 10^{-9}	6.2 10^{-10}	4.9 10^{-10}
Y-93	10.1 h	0.001	1.4 10^{-8}	1.0 10^{-4}	8.5 10^{-9}	4.3 10^{-9}	2.5 10^{-9}	1.4 10^{-9}	1.2 10^{-9}
Y-94	0.318 h	0.001	9.9 10^{-10}	1.0 10^{-4}	5.5 10^{-10}	2.7 10^{-10}	1.5 10^{-10}	1.0 10^{-10}	8.1 10^{-11}
Y-95	0.178 h	0.001	5.7 10^{-10}	1.0 10^{-4}	3.1 10^{-10}	1.5 10^{-10}	8.7 10^{-11}	5.9 10^{-11}	4.6 10^{-11}
Zirconium									
Zr-86	16.5 h	0.020	6.9 10^{-9}	0.010	4.8 10^{-9}	2.7 10^{-9}	1.7 10^{-9}	1.1 10^{-9}	8.6 10^{-10}
Zr-88	83.4 d	0.020	2.8 10^{-9}	0.010	2.0 10^{-9}	1.2 10^{-9}	8.0 10^{-10}	5.4 10^{-10}	4.5 10^{-10}
Zr-89	3.27 d	0.020	6.5 10^{-9}	0.010	4.5 10^{-9}	2.5 10^{-9}	1.6 10^{-9}	9.9 10^{-10}	7.9 10^{-10}
Zr-93	1.53 10^{6} a	0.020	1.2 10^{-9}	0.010	7.6 10^{-10}	5.1 10^{-10}	5.8 10^{-10}	8.6 10^{-10}	1.1 10^{-9}
Zr-95	64.0 d	0.020	8.5 10^{-9}	0.010	5.6 10^{-9}	3.0 10^{-9}	1.9 10^{-9}	1.2 10^{-9}	9.5 10^{-10}
Zr-97	16.9 h	0.020	2.2 10^{-8}	0.010	1.4 10^{-8}	7.3 10^{-9}	4.4 10^{-9}	2.6 10^{-9}	2.1 10^{-9}
Niobium									
Nb-88	0.238 h	0.020	6.7 10^{-10}	0.010	3.8 10^{-10}	1.9 10^{-10}	1.1 10^{-10}	7.9 10^{-11}	6.3 10^{-11}
Nb-89	2.03 h	0.020	3.0 10^{-9}	0.010	2.0 10^{-9}	1.0 10^{-9}	6.0 10^{-10}	3.4 10^{-10}	2.7 10^{-10}
Nb-89	1.10 h	0.020	1.5 10^{-9}	0.010	8.7 10^{-10}	4.4 10^{-10}	2.7 10^{-10}	1.8 10^{-10}	1.4 10^{-10}
Nb-90	14.6 h	0.020	1.1 10^{-8}	0.010	7.2 10^{-9}	3.9 10^{-9}	2.5 10^{-9}	1.6 10^{-9}	1.2 10^{-9}
Nb-93m	13.6 a	0.020	1.5 10^{-9}	0.010	9.1 10^{-10}	4.6 10^{-10}	2.7 10^{-10}	1.5 10^{-10}	1.2 10^{-10}
Nb-94	2.03 10^{4} a	0.020	1.5 10^{-8}	0.010	9.7 10^{-9}	5.3 10^{-9}	3.4 10^{-9}	2.1 10^{-9}	1.7 10^{-9}
Nb-95	35.1 d	0.020	4.6 10^{-9}	0.010	3.2 10^{-9}	1.8 10^{-9}	1.1 10^{-9}	7.4 10^{-10}	5.8 10^{-10}
Nb-95m	3.61 d	0.020	6.4 10^{-9}	0.010	4.1 10^{-9}	2.1 10^{-9}	1.2 10^{-9}	7.1 10^{-10}	5.6 10^{-10}
Nb-96	23.3 h	0.020	9.2 10^{-9}	0.010	6.3 10^{-9}	3.4 10^{-9}	2.2 10^{-9}	1.4 10^{-9}	1.1 10^{-9}
Nb-97	1.20 h	0.020	7.7 10^{-10}	0.010	4.5 10^{-10}	2.3 10^{-10}	1.3 10^{-10}	8.7 10^{-11}	6.8 10^{-11}
Nb-98	0.858 h	0.020	1.2 10^{-9}	0.010	7.1 10^{-10}	3.6 10^{-10}	2.2 10^{-10}	1.4 10^{-10}	1.1 10^{-10}
Molybdenum									
Mo-90	5.67 h	1.000	1.7 10^{-9}	1.000	1.2 10^{-9}	6.3 10^{-10}	4.0 10^{-10}	2.7 10^{-10}	2.2 10^{-10}
Mo-93	3.50 10^{3} a	1.000	7.9 10^{-9}	1.000	6.9 10^{-9}	5.0 10^{-9}	4.0 10^{-9}	3.4 10^{-9}	3.1 10^{-9}
Mo-93m	6.85 h	1.000	8.0 10^{-10}	1.000	5.4 10^{-10}	3.1 10^{-10}	2.0 10^{-10}	1.4 10^{-10}	1.1 10^{-10}
Mo-99	2.75 d	1.000	5.5 10^{-9}	1.000	3.5 10^{-9}	1.8 10^{-9}	1.1 10^{-9}	7.6 10^{-10}	6.0 10^{-10}
Mo-101	0.244 h	1.000	4.8 10^{-10}	1.000	2.7 10^{-10}	1.3 10^{-10}	7.6 10^{-11}	5.2 10^{-11}	4.1 10^{-11}
Technetium									
Tc-93	2.75 h	1.000	2.7 10^{-10}	0.500	2.5 10^{-10}	1.5 10^{-10}	9.8 10^{-11}	6.8 10^{-11}	5.5 10^{-11}
Tc-93m	0.725 h	1.000	2.0 10^{-10}	0.500	1.3 10^{-10}	7.3 10^{-11}	4.6 10^{-11}	3.2 10^{-11}	2.5 10^{-11}
Tc-94	4.88 h	1.000	1.2 10^{-9}	0.500	1.0 10^{-9}	5.8 10^{-10}	3.7 10^{-10}	2.5 10^{-10}	2.0 10^{-10}
Tc-94m	0.867 h	1.000	1.3 10^{-9}	0.500	6.5 10^{-10}	3.3 10^{-10}	1.9 10^{-10}	1.3 10^{-10}	1.0 10^{-10}
Tc-95	20.0 h	1.000	9.9 10^{-10}	0.500	8.7 10^{-10}	5.0 10^{-10}	3.3 10^{-10}	2.3 10^{-10}	1.8 10^{-10}

[5)] The value of f_1 for 1 to 15 year olds is 0.4.

TABLE A (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
		f_1 for $g \leq 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Tc-95m	61.0 d	1.000	4.7 10^{-9}	0.500	2.8 10^{-9}	1.6 10^{-9}	1.0 10^{-9}	7.0 10^{-10}	5.6 10^{-10}
Tc-96	4.28 d	1.000	6.7 10^{-9}	0.500	5.1 10^{-9}	3.0 10^{-9}	2.0 10^{-9}	1.4 10^{-9}	1.1 10^{-9}
Tc-96m	0.858 h	1.000	1.0 10^{-10}	0.500	6.5 10^{-11}	3.6 10^{-11}	2.3 10^{-11}	1.6 10^{-11}	1.2 10^{-11}
Tc-97	2.60 10^{6} a	1.000	9.9 10^{-10}	0.500	4.9 10^{-10}	2.4 10^{-10}	1.4 10^{-10}	8.8 10^{-11}	6.8 10^{-11}
Tc-97m	87.0 d	1.000	8.7 10^{-9}	0.500	4.1 10^{-9}	2.0 10^{-9}	1.1 10^{-9}	7.0 10^{-10}	5.5 10^{-10}
Tc-98	4.20 10^{6} a	1.000	2.3 10^{-8}	0.500	1.2 10^{-8}	6.1 10^{-9}	3.7 10^{-9}	2.5 10^{-9}	2.0 10^{-9}
Tc-99	2.13 10^{5} a	1.000	1.0 10^{-8}	0.500	4.8 10^{-9}	2.3 10^{-9}	1.3 10^{-9}	8.2 10^{-10}	6.4 10^{-10}
Tc-99m	6.02 h	1.000	2.0 10^{-10}	0.500	1.3 10^{-10}	7.2 10^{-11}	4.3 10^{-11}	2.8 10^{-11}	2.2 10^{-11}
Tc-101	0.237 h	1.000	2.4 10^{-10}	0.500	1.3 10^{-10}	6.1 10^{-11}	3.5 10^{-11}	2.4 10^{-11}	1.9 10^{-11}
Tc-104	0.303 h	1.000	1.0 10^{-9}	0.500	5.3 10^{-10}	2.6 10^{-10}	1.5 10^{-10}	1.0 10^{-10}	8.0 10^{-11}
Ruthenium									
Ru-94	0.863 h	0.100	9.3 10^{-10}	0.050	5.9 10^{-10}	3.1 10^{-10}	1.9 10^{-10}	1.2 10^{-10}	9.4 10^{-11}
Ru-97	2.90 d	0.100	1.2 10^{-9}	0.050	8.5 10^{-10}	4.7 10^{-10}	3.0 10^{-10}	1.9 10^{-10}	1.5 10^{-10}
Ru-103	39.3 d	0.100	7.1 10^{-9}	0.050	4.6 10^{-9}	2.4 10^{-9}	1.5 10^{-9}	9.2 10^{-10}	7.3 10^{-10}
Ru-105	4.44 h	0.100	2.7 10^{-9}	0.050	1.8 10^{-9}	9.1 10^{-10}	5.5 10^{-10}	3.3 10^{-10}	2.6 10^{-10}
Ru-106	1.01 a	0.100	8.4 10^{-8}	0.050	4.9 10^{-8}	2.5 10^{-8}	1.5 10^{-8}	8.6 10^{-9}	7.0 10^{-9}
Rhodium									
Rh-99	16.0 d	0.100	4.2 10^{-9}	0.050	2.9 10^{-9}	1.6 10^{-9}	1.0 10^{-9}	6.5 10^{-10}	5.1 10^{-10}
Rh-99m	4.70 h	0.100	4.9 10^{-10}	0.050	3.5 10^{-10}	2.0 10^{-10}	1.3 10^{-10}	8.3 10^{-11}	6.6 10^{-11}
Rh-100	20.8 h	0.100	4.9 10^{-9}	0.050	3.6 10^{-9}	2.0 10^{-9}	1.4 10^{-9}	8.8 10^{-10}	7.1 10^{-10}
Rh-101	3.20 a	0.100	4.9 10^{-9}	0.050	2.8 10^{-9}	1.6 10^{-9}	1.0 10^{-9}	6.7 10^{-10}	5.5 10^{-10}
Rh-101m	4.34 d	0.100	1.7 10^{-9}	0.050	1.2 10^{-9}	6.8 10^{-10}	4.4 10^{-10}	2.8 10^{-10}	2.2 10^{-10}
Rh-102	2.90 a	0.100	1.9 10^{-8}	0.050	1.0 10^{-8}	6.4 10^{-9}	4.3 10^{-9}	3.0 10^{-9}	2.6 10^{-9}
Rh-102m	207 d	0.100	1.2 10^{-8}	0.050	7.4 10^{-9}	3.9 10^{-9}	2.4 10^{-9}	1.4 10^{-9}	1.2 10^{-9}
Rh-103m	0.935 h	0.100	4.7 10^{-11}	0.050	2.7 10^{-11}	1.3 10^{-11}	7.4 10^{-12}	4.8 10^{-12}	3.8 10^{-12}
Rh-105	1.47 d	0.100	4.0 10^{-9}	0.050	2.7 10^{-9}	1.3 10^{-9}	8.0 10^{-10}	4.6 10^{-10}	3.7 10^{-10}
Rh-106m	2.20 h	0.100	1.4 10^{-9}	0.050	9.7 10^{-10}	5.3 10^{-10}	3.3 10^{-10}	2.0 10^{-10}	1.6 10^{-10}
Rh-107	0.362 h	0.100	2.9 10^{-10}	0.050	1.6 10^{-10}	7.9 10^{-11}	4.5 10^{-11}	3.1 10^{-11}	2.4 10^{-11}
Palladium									
Pd-100	3.63 d	0.050	7.4 10^{-9}	0.005	5.2 10^{-9}	2.9 10^{-9}	1.9 10^{-9}	1.2 10^{-9}	9.4 10^{-10}
Pd-101	8.27 h	0.050	8.2 10^{-10}	0.005	5.7 10^{-10}	3.1 10^{-10}	1.9 10^{-10}	1.2 10^{-10}	9.4 10^{-11}
Pd-103	17.0 d	0.050	2.2 10^{-9}	0.005	1.4 10^{-9}	7.2 10^{-10}	4.3 10^{-10}	2.4 10^{-10}	1.9 10^{-10}
Pd-107	6.50 10^{6} a	0.050	4.4 10^{-10}	0.005	2.8 10^{-10}	1.4 10^{-10}	8.1 10^{-11}	4.6 10^{-11}	3.7 10^{-11}
Pd-109	13.4 h	0.050	6.3 10^{-9}	0.005	4.1 10^{-9}	2.0 10^{-9}	1.2 10^{-9}	6.8 10^{-10}	5.5 10^{-10}
Silver									
Ag-102	0.215 h	0.100	4.2 10^{-10}	0.050	2.4 10^{-10}	1.2 10^{-10}	7.3 10^{-11}	5.0 10^{-11}	4.0 10^{-11}
Ag-103	1.09 h	0.100	4.5 10^{-10}	0.050	2.7 10^{-10}	1.4 10^{-10}	8.3 10^{-11}	5.5 10^{-11}	4.3 10^{-11}
Ag-104	1.15 h	0.100	4.3 10^{-10}	0.050	2.9 10^{-10}	1.7 10^{-10}	1.1 10^{-10}	7.5 10^{-11}	6.0 10^{-11}
Ag-104m	0.558 h	0.100	5.6 10^{-10}	0.050	3.3 10^{-10}	1.7 10^{-10}	1.0 10^{-10}	6.8 10^{-11}	5.4 10^{-11}
Ag-105	41.0 d	0.100	3.9 10^{-9}	0.050	2.5 10^{-9}	1.4 10^{-9}	9.1 10^{-10}	5.9 10^{-10}	4.7 10^{-10}
Ag-106	0.399 h	0.100	3.7 10^{-10}	0.050	2.1 10^{-10}	1.0 10^{-10}	6.0 10^{-11}	4.1 10^{-11}	3.2 10^{-11}
Ag-106m	8.41 d	0.100	9.7 10^{-9}	0.050	6.9 10^{-9}	4.1 10^{-9}	2.8 10^{-9}	1.8 10^{-9}	1.5 10^{-9}
Ag-108m	1.27 10^{2} a	0.100	2.1 10^{-8}	0.050	1.1 10^{-8}	6.5 10^{-9}	4.3 10^{-9}	2.8 10^{-9}	2.3 10^{-9}
Ag-110m	250 d	0.100	2.4 10^{-8}	0.050	1.4 10^{-8}	7.8 10^{-9}	5.2 10^{-9}	3.4 10^{-9}	2.8 10^{-9}
Ag-111	7.45 d	0.100	1.4 10^{-8}	0.050	9.3 10^{-9}	4.6 10^{-9}	2.7 10^{-9}	1.6 10^{-9}	1.3 10^{-9}
Ag-112	3.12 h	0.100	4.9 10^{-9}	0.050	3.0 10^{-9}	1.5 10^{-9}	8.9 10^{-10}	5.4 10^{-10}	4.3 10^{-10}
Ag-115	0.333 h	0.100	7.2 10^{-10}	0.050	4.1 10^{-10}	2.0 10^{-10}	1.2 10^{-10}	7.7 10^{-11}	6.0 10^{-11}
Cadmium									
Cd-104	0.961 h	0.100	4.2 10^{-10}	0.050	2.9 10^{-10}	1.7 10^{-10}	1.1 10^{-10}	7.2 10^{-11}	5.4 10^{-11}
Cd-107	6.49 h	0.100	7.1 10^{-10}	0.050	4.6 10^{-10}	2.3 10^{-10}	1.3 10^{-10}	7.8 10^{-11}	6.2 10^{-11}
Cd-109	1.27 a	0.100	2.1 10^{-8}	0.050	9.5 10^{-9}	5.5 10^{-9}	3.5 10^{-9}	2.4 10^{-9}	2.0 10^{-9}
Cd-113	9.30 10^{15} a	0.100	1.0 10^{-7}	0.050	4.8 10^{-8}	3.7 10^{-8}	3.0 10^{-8}	2.6 10^{-8}	2.5 10^{-8}
Cd-113m	13.6 a	0.100	1.2 10^{-7}	0.050	5.6 10^{-8}	3.9 10^{-8}	2.9 10^{-8}	2.4 10^{-8}	2.3 10^{-8}
Cd-115	2.23 d	0.100	1.4 10^{-8}	0.050	9.7 10^{-9}	4.9 10^{-9}	2.9 10^{-9}	1.7 10^{-9}	1.4 10^{-9}
Cd-115m	44.6 d	0.100	4.1 10^{-8}	0.050	1.9 10^{-8}	9.7 10^{-9}	6.9 10^{-9}	4.1 10^{-9}	3.3 10^{-9}
Cd-117	2.49 h	0.100	2.9 10^{-9}	0.050	1.9 10^{-9}	9.5 10^{-10}	5.7 10^{-10}	3.5 10^{-10}	2.8 10^{-10}
Cd-117m	3.36 h	0.100	2.6 10^{-9}	0.050	1.7 10^{-9}	9.0 10^{-10}	5.6 10^{-10}	3.5 10^{-10}	2.8 10^{-10}
Indium									
In-109	4.20 h	0.040	5.2 10^{-10}	0.020	3.6 10^{-10}	2.0 10^{-10}	1.3 10^{-10}	8.2 10^{-11}	6.6 10^{-11}
In-110	4.90 h	0.040	1.5 10^{-9}	0.020	1.1 10^{-9}	6.5 10^{-10}	4.4 10^{-10}	3.0 10^{-10}	2.4 10^{-10}
In-110	1.15 h	0.040	1.1 10^{-9}	0.020	6.4 10^{-10}	3.2 10^{-10}	1.9 10^{-10}	1.3 10^{-10}	1.0 10^{-10}

TABLE A (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
		f_1 for $g \le 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
In-111	2.83 d	0.040	2.4 10^{-9}	0.020	1.7 10^{-9}	9.1 10^{-10}	5.9 10^{-10}	3.7 10^{-10}	2.9 10^{-10}
In-112	0.240 h	0.040	1.2 10^{-10}	0.020	6.7 10^{-11}	3.3 10^{-11}	1.9 10^{-11}	1.3 10^{-11}	1.0 10^{-11}
In-113m	1.66 h	0.040	3.0 10^{-10}	0.020	1.8 10^{-10}	9.3 10^{-11}	6.2 10^{-11}	3.6 10^{-11}	2.8 10^{-11}
In-114m	49.5 d	0.040	5.6 10^{-8}	0.020	3.1 10^{-8}	1.5 10^{-8}	9.0 10^{-9}	5.2 10^{-9}	4.1 10^{-9}
In-115	5.10 10^{15} a	0.040	1.3 10^{-7}	0.020	6.4 10^{-8}	4.8 10^{-8}	4.3 10^{-8}	3.6 10^{-8}	3.2 10^{-8}
In-115m	4.49 h	0.040	9.6 10^{-10}	0.020	6.0 10^{-10}	3.0 10^{-10}	1.8 10^{-10}	1.1 10^{-10}	8.6 10^{-11}
In-116m	0.902 h	0.040	5.8 10^{-10}	0.020	3.6 10^{-10}	1.9 10^{-10}	1.2 10^{-10}	8.0 10^{-11}	6.4 10^{-11}
In-117	0.730 h	0.040	3.3 10^{-10}	0.020	1.9 10^{-10}	9.7 10^{-11}	5.8 10^{-11}	3.9 10^{-11}	3.1 10^{-11}
In-117m	1.94 h	0.040	1.4 10^{-9}	0.020	8.6 10^{-10}	4.3 10^{-10}	2.5 10^{-10}	1.6 10^{-10}	1.2 10^{-10}
In-119m	0.300 h	0.040	5.9 10^{-10}	0.020	3.2 10^{-10}	1.6 10^{-10}	8.8 10^{-11}	6.0 10^{-11}	4.7 10^{-11}
Tin									
Sn-110	4.00 h	0.040	3.5 10^{-9}	0.020	2.3 10^{-9}	1.2 10^{-9}	7.4 10^{-10}	4.4 10^{-10}	3.5 10^{-10}
Sn-111	0.588 h	0.040	2.5 10^{-10}	0.020	1.5 10^{-10}	7.4 10^{-11}	4.4 10^{-11}	3.0 10^{-11}	2.3 10^{-11}
Sn-113	115 d	0.040	7.8 10^{-9}	0.020	5.0 10^{-9}	2.6 10^{-9}	1.6 10^{-9}	9.2 10^{-10}	7.3 10^{-10}
Sn-117m	13.6 d	0.040	7.7 10^{-9}	0.020	5.0 10^{-9}	2.5 10^{-9}	1.5 10^{-9}	8.8 10^{-10}	7.1 10^{-10}
Sn-119m	293 d	0.040	4.1 10^{-9}	0.020	2.5 10^{-9}	1.3 10^{-9}	7.5 10^{-10}	4.3 10^{-10}	3.4 10^{-10}
Sn-121	1.13 d	0.040	2.6 10^{-9}	0.020	1.7 10^{-9}	8.4 10^{-10}	5.0 10^{-10}	2.8 10^{-10}	2.3 10^{-10}
Sn-121m	55.0 a	0.040	4.6 10^{-9}	0.020	2.7 10^{-9}	1.4 10^{-9}	8.2 10^{-10}	4.7 10^{-10}	3.8 10^{-10}
Sn-123	129 d	0.040	2.5 10^{-8}	0.020	1.6 10^{-8}	7.8 10^{-9}	4.6 10^{-9}	2.6 10^{-9}	2.1 10^{-9}
Sn-123m	0.668 h	0.040	4.7 10^{-10}	0.020	2.6 10^{-10}	1.3 10^{-10}	7.3 10^{-11}	4.9 10^{-11}	3.8 10^{-11}
Sn-125	9.64 d	0.040	3.5 10^{-8}	0.020	2.2 10^{-8}	1.1 10^{-8}	6.7 10^{-9}	3.8 10^{-9}	3.1 10^{-9}
Sn-126	1.00 10^{5} a	0.040	5.0 10^{-8}	0.020	3.0 10^{-8}	1.6 10^{-8}	9.8 10^{-9}	5.9 10^{-9}	4.7 10^{-9}
Sn-127	2.10 h	0.040	2.0 10^{-9}	0.020	1.3 10^{-9}	6.6 10^{-10}	4.0 10^{-10}	2.5 10^{-10}	2.0 10^{-10}
Sn-128	0.985 h	0.040	1.6 10^{-9}	0.020	9.7 10^{-10}	4.9 10^{-10}	3.0 10^{-10}	1.9 10^{-10}	1.5 10^{-10}
Antimony									
Sb-115	0.530 h	0.200	2.5 10^{-10}	0.100	1.5 10^{-10}	7.5 10^{-11}	4.5 10^{-11}	3.1 10^{-11}	2.4 10^{-11}
Sb-116	0.263 h	0.200	2.7 10^{-10}	0.100	1.6 10^{-10}	8.0 10^{-11}	4.8 10^{-11}	3.3 10^{-11}	2.6 10^{-11}
Sb-116m	1.00 h	0.200	5.0 10^{-10}	0.100	3.3 10^{-10}	1.9 10^{-10}	1.2 10^{-10}	8.3 10^{-11}	6.7 10^{-11}
Sb-117	2.80 h	0.200	1.6 10^{-10}	0.100	1.0 10^{-10}	5.6 10^{-11}	3.5 10^{-11}	2.2 10^{-11}	1.8 10^{-11}
Sb-118m	5.00 h	0.200	1.3 10^{-9}	0.100	1.0 10^{-9}	5.8 10^{-10}	3.9 10^{-10}	2.6 10^{-10}	2.1 10^{-10}
Sb-119	1.59 d	0.200	8.4 10^{-10}	0.100	5.8 10^{-10}	3.0 10^{-10}	1.8 10^{-10}	1.0 10^{-10}	8.0 10^{-11}
Sb-120	5.76 d	0.200	8.1 10^{-9}	0.100	6.0 10^{-9}	3.5 10^{-9}	2.3 10^{-9}	1.6 10^{-9}	1.2 10^{-9}
Sb-120	0.265 h	0.200	1.7 10^{-10}	0.100	9.4 10^{-11}	4.6 10^{-11}	2.7 10^{-11}	1.8 10^{-11}	1.4 10^{-11}
Sb-122	2.70 d	0.200	1.8 10^{-8}	0.100	1.2 10^{-8}	6.1 10^{-9}	3.7 10^{-9}	2.1 10^{-9}	1.7 10^{-9}
Sb-124	60.2 d	0.200	2.5 10^{-8}	0.100	1.6 10^{-8}	8.4 10^{-9}	5.2 10^{-9}	3.2 10^{-9}	2.5 10^{-9}
Sb-124m	0.337 h	0.200	8.5 10^{-11}	0.100	4.9 10^{-11}	2.5 10^{-11}	1.5 10^{-11}	1.0 10^{-11}	8.0 10^{-12}
Sb-125	2.77 a	0.200	1.1 10^{-8}	0.100	6.1 10^{-9}	3.4 10^{-9}	2.1 10^{-9}	1.4 10^{-9}	1.1 10^{-9}
Sb-126	12.4 d	0.200	2.0 10^{-8}	0.100	1.4 10^{-8}	7.6 10^{-9}	4.9 10^{-9}	3.1 10^{-9}	2.4 10^{-9}
Sb-126m	0.317 h	0.200	3.9 10^{-10}	0.100	2.2 10^{-10}	1.1 10^{-10}	6.6 10^{-11}	4.5 10^{-11}	3.6 10^{-11}
Sb-127	3.85 d	0.200	1.7 10^{-8}	0.100	1.2 10^{-8}	5.9 10^{-9}	3.6 10^{-9}	2.1 10^{-9}	1.7 10^{-9}
Sb-128	9.01 h	0.200	6.3 10^{-9}	0.100	4.5 10^{-9}	2.4 10^{-9}	1.5 10^{-9}	9.5 10^{-10}	7.6 10^{-10}
Sb-128	0.173 h	0.200	3.7 10^{-10}	0.100	2.1 10^{-10}	1.0 10^{-10}	6.0 10^{-11}	4.1 10^{-11}	3.3 10^{-11}
Sb-129	4.32 h	0.200	4.3 10^{-9}	0.100	2.8 10^{-9}	1.5 10^{-9}	8.8 10^{-10}	5.3 10^{-10}	4.2 10^{-10}
Sb-130	0.667 h	0.200	9.1 10^{-10}	0.100	5.4 10^{-10}	2.8 10^{-10}	1.7 10^{-10}	1.2 10^{-10}	9.1 10^{-11}
Sb-131	0.383 h	0.200	1.1 10^{-9}	0.100	7.3 10^{-10}	3.9 10^{-10}	2.1 10^{-10}	1.4 10^{-10}	1.0 10^{-10}
Tellurium									
Te-116	2.49 h	0.600	1.4 10^{-9}	0.300	1.0 10^{-9}	5.5 10^{-10}	3.4 10^{-10}	2.1 10^{-10}	1.7 10^{-10}
Te-121	17.0 d	0.600	3.1 10^{-9}	0.300	2.0 10^{-9}	1.2 10^{-9}	8.0 10^{-10}	5.4 10^{-10}	4.3 10^{-10}
Te-121m	154 d	0.600	2.7 10^{-8}	0.300	1.2 10^{-8}	6.9 10^{-9}	4.2 10^{-9}	2.8 10^{-9}	2.3 10^{-9}
Te-123	1.00 10^{13} a	0.600	2.0 10^{-8}	0.300	9.3 10^{-9}	6.9 10^{-9}	5.4 10^{-9}	4.7 10^{-9}	4.4 10^{-9}
Te-123m	120 d	0.600	1.9 10^{-8}	0.300	8.8 10^{-9}	4.9 10^{-9}	2.8 10^{-9}	1.7 10^{-9}	1.4 10^{-9}
Te-125m	58.0 d	0.600	1.3 10^{-8}	0.300	6.3 10^{-9}	3.3 10^{-9}	1.9 10^{-9}	1.1 10^{-9}	8.7 10^{-10}
Te-127	9.35 h	0.600	1.5 10^{-9}	0.300	1.2 10^{-9}	6.2 10^{-10}	3.6 10^{-10}	2.1 10^{-10}	1.7 10^{-10}
Te-127m	109 d	0.600	4.1 10^{-8}	0.300	1.8 10^{-8}	9.5 10^{-9}	5.2 10^{-9}	3.0 10^{-9}	2.3 10^{-9}
Te-129	1.16 h	0.600	7.5 10^{-10}	0.300	4.4 10^{-10}	2.1 10^{-10}	1.2 10^{-10}	8.0 10^{-11}	6.3 10^{-11}
Te-129m	33.6 d	0.600	4.4 10^{-8}	0.300	2.4 10^{-8}	1.2 10^{-8}	6.6 10^{-9}	3.9 10^{-9}	3.0 10^{-9}
Te-131	0.417 h	0.600	9.0 10^{-10}	0.300	6.6 10^{-10}	3.5 10^{-10}	1.9 10^{-10}	1.2 10^{-10}	8.7 10^{-11}
Te-131m	1.25 d	0.600	2.0 10^{-8}	0.300	1.4 10^{-8}	7.8 10^{-9}	4.3 10^{-9}	2.7 10^{-9}	1.9 10^{-9}
Te-132	3.26 d	0.600	4.8 10^{-8}	0.300	3.0 10^{-8}	1.6 10^{-8}	8.3 10^{-9}	5.3 10^{-9}	3.8 10^{-9}
Te-133	0.207 h	0.600	8.4 10^{-10}	0.300	6.3 10^{-10}	3.3 10^{-10}	1.6 10^{-10}	1.1 10^{-10}	7.2 10^{-11}
Te-133m	0.923 h	0.600	3.1 10^{-9}	0.300	2.4 10^{-9}	1.3 10^{-9}	6.3 10^{-10}	4.1 10^{-10}	2.8 10^{-10}
Te-134	0.696 h	0.600	1.1 10^{-9}	0.300	7.5 10^{-10}	3.9 10^{-10}	2.2 10^{-10}	1.4 10^{-10}	1.1 10^{-10}

TABLE A (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
		f_1 for $g \le 1$ a	$h(g)$	f_1 for $g > 1$ a	$h(g)$	$h(g)$	$h(g)$	$h(g)$	$h(g)$
Iodine									
I-120	1.35 h	1.000	3.9 10^{-9}	1.000	2.8 10^{-9}	1.4 10^{-9}	7.2 10^{-10}	4.8 10^{-10}	3.4 10^{-10}
I-120m	0.883 h	1.000	2.3 10^{-9}	1.000	1.5 10^{-9}	7.8 10^{-10}	4.2 10^{-10}	2.9 10^{-10}	2.1 10^{-10}
I-121	2.12 h	1.000	6.2 10^{-10}	1.000	5.3 10^{-10}	3.1 10^{-10}	1.7 10^{-10}	1.2 10^{-10}	8.2 10^{-11}
I-123	13.2 h	1.000	2.2 10^{-9}	1.000	1.9 10^{-9}	1.1 10^{-9}	4.9 10^{-10}	3.3 10^{-10}	2.1 10^{-10}
I-124	4.18 d	1.000	1.2 10^{-7}	1.000	1.1 10^{-7}	6.3 10^{-8}	3.1 10^{-8}	2.0 10^{-8}	1.3 10^{-8}
I-125	60.1 d	1.000	5.2 10^{-8}	1.000	5.7 10^{-8}	4.1 10^{-8}	3.1 10^{-8}	2.2 10^{-8}	1.5 10^{-8}
I-126	13.0 d	1.000	2.1 10^{-7}	1.000	2.1 10^{-7}	1.3 10^{-7}	6.8 10^{-8}	4.5 10^{-8}	2.9 10^{-8}
I-128	0.416 h	1.000	5.7 10^{-10}	1.000	3.3 10^{-10}	1.6 10^{-10}	8.9 10^{-11}	6.0 10^{-11}	4.6 10^{-11}
I-129	1.57 10^{7} a	1.000	1.8 10^{-7}	1.000	2.2 10^{-7}	1.7 10^{-7}	1.9 10^{-7}	1.4 10^{-7}	1.1 10^{-7}
I-130	12.4 h	1.000	2.1 10^{-8}	1.000	1.8 10^{-8}	9.8 10^{-9}	4.6 10^{-9}	3.0 10^{-9}	2.0 10^{-9}
I-131	8.04 d	1.000	1.8 10^{-7}	1.000	1.8 10^{-7}	1.0 10^{-7}	5.2 10^{-8}	3.4 10^{-8}	2.2 10^{-8}
I-132	2.30 h	1.000	3.0 10^{-9}	1.000	2.4 10^{-9}	1.3 10^{-9}	6.2 10^{-10}	4.1 10^{-10}	2.9 10^{-10}
I-132m	1.39 h	1.000	2.4 10^{-9}	1.000	2.0 10^{-9}	1.1 10^{-9}	5.0 10^{-10}	3.3 10^{-10}	2.2 10^{-10}
I-133	20.8 h	1.000	4.9 10^{-8}	1.000	4.4 10^{-8}	2.3 10^{-8}	1.0 10^{-8}	6.8 10^{-9}	4.3 10^{-9}
I-134	0.876 h	1.000	1.1 10^{-9}	1.000	7.5 10^{-10}	3.9 10^{-10}	2.1 10^{-10}	1.4 10^{-10}	1.1 10^{-10}
I-135	6.61 h	1.000	1.0 10^{-8}	1.000	8.9 10^{-9}	4.7 10^{-9}	2.2 10^{-9}	1.4 10^{-9}	9.3 10^{-10}
Caesium									
Cs-125	0.750 h	1.000	3.9 10^{-10}	1.000	2.2 10^{-10}	1.1 10^{-10}	6.5 10^{-11}	4.4 10^{-11}	3.5 10^{-11}
Cs-127	6.25 h	1.000	1.8 10^{-10}	1.000	1.2 10^{-10}	6.6 10^{-11}	4.2 10^{-11}	2.9 10^{-11}	2.4 10^{-11}
Cs-129	1.34 d	1.000	4.4 10^{-10}	1.000	3.0 10^{-10}	1.7 10^{-10}	1.1 10^{-10}	7.2 10^{-11}	6.0 10^{-11}
Cs-130	0.498 h	1.000	3.3 10^{-10}	1.000	1.8 10^{-10}	9.0 10^{-11}	5.2 10^{-11}	3.6 10^{-11}	2.8 10^{-11}
Cs-131	9.69 d	1.000	4.6 10^{-10}	1.000	2.9 10^{-10}	1.6 10^{-10}	1.0 10^{-10}	6.9 10^{-11}	5.8 10^{-11}
Cs-132	6.48 d	1.000	2.7 10^{-9}	1.000	1.8 10^{-9}	1.1 10^{-9}	7.7 10^{-10}	5.7 10^{-10}	5.0 10^{-10}
Cs-134	2.06 a	1.000	2.6 10^{-8}	1.000	1.6 10^{-8}	1.3 10^{-8}	1.4 10^{-8}	1.9 10^{-8}	1.9 10^{-8}
Cs-134m	2.90 h	1.000	2.1 10^{-10}	1.000	1.2 10^{-10}	5.9 10^{-11}	3.5 10^{-11}	2.5 10^{-11}	2.0 10^{-11}
Cs-135	2.30 10^{6} a	1.000	4.1 10^{-9}	1.000	2.3 10^{-9}	1.7 10^{-9}	1.7 10^{-9}	2.0 10^{-9}	2.0 10^{-9}
Cs-135m	0.883 h	1.000	1.3 10^{-10}	1.000	8.6 10^{-11}	4.9 10^{-11}	3.2 10^{-11}	2.3 10^{-11}	1.9 10^{-11}
Cs-136	13.1 d	1.000	1.5 10^{-8}	1.000	9.5 10^{-9}	6.1 10^{-9}	4.4 10^{-9}	3.4 10^{-9}	3.0 10^{-9}
Cs-137	30.0 a	1.000	2.1 10^{-8}	1.000	1.2 10^{-8}	9.6 10^{-9}	1.0 10^{-8}	1.3 10^{-8}	1.3 10^{-8}
Cs-138	0.536 h	1.000	1.1 10^{-9}	1.000	5.9 10^{-10}	2.9 10^{-10}	1.7 10^{-10}	1.2 10^{-10}	9.2 10^{-11}
Barium [6)]									
Ba-126	1.61 h	0.600	2.7 10^{-9}	0.200	1.7 10^{-9}	8.5 10^{-10}	5.0 10^{-10}	3.1 10^{-10}	2.6 10^{-10}
Ba-128	2.43 d	0.600	2.0 10^{-8}	0.200	1.7 10^{-8}	9.0 10^{-9}	5.2 10^{-9}	3.0 10^{-9}	2.7 10^{-9}
Ba-131	11.8 d	0.600	4.2 10^{-9}	0.200	2.6 10^{-9}	1.4 10^{-9}	9.4 10^{-10}	6.2 10^{-10}	4.5 10^{-10}
Ba-131m	0.243 h	0.600	5.8 10^{-11}	0.200	3.2 10^{-11}	1.6 10^{-11}	9.3 10^{-12}	6.3 10^{-12}	4.9 10^{-12}
Ba-133	10.7 a	0.600	2.2 10^{-8}	0.200	6.2 10^{-9}	3.9 10^{-9}	4.6 10^{-9}	7.3 10^{-9}	1.5 10^{-9}
Ba-133m	1.62 d	0.600	4.2 10^{-9}	0.200	3.6 10^{-9}	1.8 10^{-9}	1.1 10^{-9}	5.9 10^{-10}	5.4 10^{-10}
Ba-135m	1.20 d	0.600	3.3 10^{-9}	0.200	2.9 10^{-9}	1.5 10^{-9}	8.5 10^{-10}	4.7 10^{-10}	4.3 10^{-10}
Ba-139	1.38 h	0.600	1.4 10^{-9}	0.200	8.4 10^{-10}	4.1 10^{-10}	2.4 10^{-10}	1.5 10^{-10}	1.2 10^{-10}
Ba-140	12.7 d	0.600	3.2 10^{-8}	0.200	1.8 10^{-8}	9.2 10^{-9}	5.8 10^{-9}	3.7 10^{-9}	2.6 10^{-9}
Ba-141	0.305 h	0.600	7.6 10^{-10}	0.200	4.7 10^{-10}	2.3 10^{-10}	1.3 10^{-10}	8.6 10^{-11}	7.0 10^{-11}
Ba-142	0.177 h	0.600	3.6 10^{-10}	0.200	2.2 10^{-10}	1.1 10^{-10}	6.6 10^{-11}	4.3 10^{-11}	3.5 10^{-11}
Lanthanum									
La-131	0.983 h	0.005	3.5 10^{-10}	5.0 10^{-4}	2.1 10^{-10}	1.1 10^{-10}	6.6 10^{-11}	4.4 10^{-11}	3.5 10^{-11}
La-132	4.80 h	0.005	3.8 10^{-9}	5.0 10^{-4}	2.4 10^{-9}	1.3 10^{-9}	7.8 10^{-10}	4.8 10^{-10}	3.9 10^{-10}
La-135	19.5 h	0.005	2.8 10^{-10}	5.0 10^{-4}	1.9 10^{-10}	1.0 10^{-10}	6.4 10^{-11}	3.9 10^{-11}	3.0 10^{-11}
La-137	6.00 10^{4} a	0.005	1.1 10^{-9}	5.0 10^{-4}	4.5 10^{-10}	2.5 10^{-10}	1.6 10^{-10}	1.0 10^{-10}	8.1 10^{-11}
La-138	1.35 10^{11} a	0.005	1.3 10^{-8}	5.0 10^{-4}	4.6 10^{-9}	2.7 10^{-9}	1.9 10^{-9}	1.3 10^{-9}	1.1 10^{-9}
La-140	1.68 d	0.005	2.0 10^{-8}	5.0 10^{-4}	1.3 10^{-8}	6.8 10^{-9}	4.2 10^{-9}	2.5 10^{-9}	2.0 10^{-9}
La-141	3.93 h	0.005	4.3 10^{-9}	5.0 10^{-4}	2.6 10^{-9}	1.3 10^{-9}	7.6 10^{-10}	4.5 10^{-10}	3.6 10^{-10}
La-142	1.54 h	0.005	1.9 10^{-9}	5.0 10^{-4}	1.1 10^{-9}	5.8 10^{-10}	3.5 10^{-10}	2.3 10^{-10}	1.8 10^{-10}
La-143	0.237 h	0.005	6.9 10^{-10}	5.0 10^{-4}	3.9 10^{-10}	1.9 10^{-10}	1.1 10^{-10}	7.1 10^{-11}	5.6 10^{-11}
Cerium									
Ce-134	3.00 d	0.005	2.8 10^{-8}	5.0 10^{-4}	1.8 10^{-8}	9.1 10^{-9}	5.5 10^{-9}	3.2 10^{-9}	2.5 10^{-9}
Ce-135	17.6 h	0.005	7.0 10^{-9}	5.0 10^{-4}	4.7 10^{-9}	2.6 10^{-9}	1.6 10^{-9}	1.0 10^{-9}	7.9 10^{-10}
Ce-137	9.00 h	0.005	2.6 10^{-10}	5.0 10^{-4}	1.7 10^{-10}	8.8 10^{-11}	5.4 10^{-11}	3.2 10^{-11}	2.5 10^{-11}
Ce-137m	1.43 d	0.005	6.1 10^{-9}	5.0 10^{-4}	3.9 10^{-9}	2.0 10^{-9}	1.2 10^{-9}	6.8 10^{-10}	5.4 10^{-10}
Ce-139	138 d	0.005	2.6 10^{-9}	5.0 10^{-4}	1.6 10^{-9}	8.6 10^{-10}	5.4 10^{-10}	3.3 10^{-10}	2.6 10^{-10}
Ce-141	32.5 d	0.005	8.1 10^{-9}	5.0 10^{-4}	5.1 10^{-9}	2.6 10^{-9}	1.5 10^{-9}	8.8 10^{-10}	7.1 10^{-10}

[6)] The value of f_1 for 1 to 15 year olds is 0.3.

TABLE A (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
		f_1 for $g \le 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Ce-143	1.38 d	0.005	1.2 10^{-8}	5.0 10^{-4}	8.0 10^{-9}	4.1 10^{-9}	2.4 10^{-9}	1.4 10^{-9}	1.1 10^{-9}
Ce-144	284 d	0.005	6.6 10^{-8}	5.0 10^{-4}	3.9 10^{-8}	1.9 10^{-8}	1.1 10^{-8}	6.5 10^{-9}	5.2 10^{-9}
Praseodymium									
Pr-136	0.218 h	0.005	3.7 10^{-10}	5.0 10^{-4}	2.1 10^{-10}	1.0 10^{-10}	6.1 10^{-11}	4.2 10^{-11}	3.3 10^{-11}
Pr-137	1.28 h	0.005	4.1 10^{-10}	5.0 10^{-4}	2.5 10^{-10}	1.3 10^{-10}	7.7 10^{-11}	5.0 10^{-11}	4.0 10^{-11}
Pr-138m	2.10 h	0.005	1.0 10^{-9}	5.0 10^{-4}	7.4 10^{-10}	4.1 10^{-10}	2.6 10^{-10}	1.6 10^{-10}	1.3 10^{-10}
Pr-139	4.51 h	0.005	3.2 10^{-10}	5.0 10^{-4}	2.0 10^{-10}	1.1 10^{-10}	6.5 10^{-11}	4.0 10^{-11}	3.1 10^{-11}
Pr-142	19.1 h	0.005	1.5 10^{-8}	5.0 10^{-4}	9.8 10^{-9}	4.9 10^{-9}	2.9 10^{-9}	1.6 10^{-9}	1.3 10^{-9}
Pr-142m	0.243 h	0.005	2.0 10^{-10}	5.0 10^{-4}	1.2 10^{-10}	6.2 10^{-11}	3.7 10^{-11}	2.1 10^{-11}	1.7 10^{-11}
Pr-143	13.6 d	0.005	1.4 10^{-8}	5.0 10^{-4}	8.7 10^{-9}	4.3 10^{-9}	2.6 10^{-9}	1.5 10^{-9}	1.2 10^{-9}
Pr-144	0.288 h	0.005	6.4 10^{-10}	5.0 10^{-4}	3.5 10^{-10}	1.7 10^{-10}	9.5 10^{-11}	6.5 10^{-11}	5.0 10^{-11}
Pr-145	5.98 h	0.005	4.7 10^{-9}	5.0 10^{-4}	2.9 10^{-9}	1.4 10^{-9}	8.5 10^{-10}	4.9 10^{-10}	3.9 10^{-10}
Pr-147	0.227 h	0.005	3.9 10^{-10}	5.0 10^{-4}	2.2 10^{-10}	1.1 10^{-10}	6.1 10^{-11}	4.2 10^{-11}	3.3 10^{-11}
Neodymium									
Nd-136	0.844 h	0.005	1.0 10^{-9}	5.0 10^{-4}	6.1 10^{-10}	3.1 10^{-10}	1.9 10^{-10}	1.2 10^{-10}	9.9 10^{-11}
Nd-138	5.04 h	0.005	7.2 10^{-9}	5.0 10^{-4}	4.5 10^{-9}	2.3 10^{-9}	1.3 10^{-9}	8.0 10^{-10}	6.4 10^{-10}
Nd-139	0.495 h	0.005	2.1 10^{-10}	5.0 10^{-4}	1.2 10^{-10}	6.3 10^{-11}	3.7 10^{-11}	2.5 10^{-11}	2.0 10^{-11}
Nd-139m	5.50 h	0.005	2.1 10^{-9}	5.0 10^{-4}	1.4 10^{-9}	7.8 10^{-10}	5.0 10^{-10}	3.1 10^{-10}	2.5 10^{-10}
Nd-141	2.49 h	0.005	7.8 10^{-11}	5.0 10^{-4}	5.0 10^{-11}	2.7 10^{-11}	1.6 10^{-11}	1.0 10^{-11}	8.3 10^{-12}
Nd-147	11.0 d	0.005	1.2 10^{-8}	5.0 10^{-4}	7.8 10^{-9}	3.9 10^{-9}	2.3 10^{-9}	1.3 10^{-9}	1.1 10^{-9}
Nd-149	1.73 h	0.005	1.4 10^{-9}	5.0 10^{-4}	8.7 10^{-10}	4.3 10^{-10}	2.6 10^{-10}	1.6 10^{-10}	1.2 10^{-10}
Nd-151	0.207 h	0.005	3.4 10^{-10}	5.0 10^{-4}	2.0 10^{-10}	9.7 10^{-11}	5.7 10^{-11}	3.8 10^{-11}	3.0 10^{-11}
Promethium									
Pm-141	0.348 h	0.005	4.2 10^{-10}	5.0 10^{-4}	2.4 10^{-10}	1.2 10^{-10}	6.8 10^{-11}	4.6 10^{-11}	3.6 10^{-11}
Pm-143	265 d	0.005	1.9 10^{-9}	5.0 10^{-4}	1.2 10^{-9}	6.7 10^{-10}	4.4 10^{-10}	2.9 10^{-10}	2.3 10^{-10}
Pm-144	363 d	0.005	7.6 10^{-9}	5.0 10^{-4}	4.7 10^{-9}	2.7 10^{-9}	1.8 10^{-9}	1.2 10^{-9}	9.7 10^{-10}
Pm-145	17.7 a	0.005	1.5 10^{-9}	5.0 10^{-4}	6.8 10^{-10}	3.7 10^{-10}	2.3 10^{-10}	1.4 10^{-10}	1.1 10^{-10}
Pm-146	5.53 a	0.005	1.0 10^{-8}	5.0 10^{-4}	5.1 10^{-9}	2.8 10^{-9}	1.8 10^{-9}	1.1 10^{-9}	9.0 10^{-10}
Pm-147	2.62 a	0.005	3.6 10^{-9}	5.0 10^{-4}	1.9 10^{-9}	9.6 10^{-10}	5.7 10^{-10}	3.2 10^{-10}	2.6 10^{-10}
Pm-148	5.37 d	0.005	3.0 10^{-8}	5.0 10^{-4}	1.9 10^{-8}	9.7 10^{-9}	5.8 10^{-9}	3.3 10^{-9}	2.7 10^{-9}
Pm-148m	41.3 d	0.005	1.5 10^{-8}	5.0 10^{-4}	1.0 10^{-8}	5.5 10^{-9}	3.5 10^{-9}	2.2 10^{-9}	1.7 10^{-9}
Pm-149	2.21 d	0.005	1.2 10^{-8}	5.0 10^{-4}	7.4 10^{-9}	3.7 10^{-9}	2.2 10^{-9}	1.2 10^{-9}	9.9 10^{-10}
Pm-150	2.68 h	0.005	2.8 10^{-9}	5.0 10^{-4}	1.7 10^{-9}	8.7 10^{-10}	5.2 10^{-10}	3.2 10^{-10}	2.6 10^{-10}
Pm-151	1.18 d	0.005	8.0 10^{-9}	5.0 10^{-4}	5.1 10^{-9}	2.6 10^{-9}	1.6 10^{-9}	9.1 10^{-10}	7.3 10^{-10}
Samarium									
Sm-141	0.170 h	0.005	4.5 10^{-10}	5.0 10^{-4}	2.5 10^{-10}	1.3 10^{-10}	7.3 10^{-11}	5.0 10^{-11}	3.9 10^{-11}
Sm-141m	0.377 h	0.005	7.0 10^{-10}	5.0 10^{-4}	4.0 10^{-10}	2.0 10^{-10}	1.2 10^{-10}	8.2 10^{-11}	6.5 10^{-11}
Sm-142	1.21 h	0.005	2.2 10^{-9}	5.0 10^{-4}	1.3 10^{-9}	6.2 10^{-10}	3.6 10^{-10}	2.4 10^{-10}	1.9 10^{-10}
Sm-145	340 d	0.005	2.4 10^{-9}	5.0 10^{-4}	1.4 10^{-9}	7.3 10^{-10}	4.5 10^{-10}	2.7 10^{-10}	2.1 10^{-10}
Sm-146	1.03 10^{8} a	0.005	1.5 10^{-6}	5.0 10^{-4}	1.5 10^{-7}	1.0 10^{-7}	7.0 10^{-8}	5.8 10^{-8}	5.4 10^{-8}
Sm-147	1.06 10^{11} a	0.005	1.4 10^{-6}	5.0 10^{-4}	1.4 10^{-7}	9.2 10^{-8}	6.4 10^{-8}	5.2 10^{-8}	4.9 10^{-8}
Sm-151	90.0 a	0.005	1.5 10^{-9}	5.0 10^{-4}	6.4 10^{-10}	3.3 10^{-10}	2.0 10^{-10}	1.2 10^{-10}	9.8 10^{-11}
Sm-153	1.95 d	0.005	8.4 10^{-9}	5.0 10^{-4}	5.4 10^{-9}	2.7 10^{-9}	1.6 10^{-9}	9.2 10^{-10}	7.4 10^{-10}
Sm-155	0.368 h	0.005	3.6 10^{-10}	5.0 10^{-4}	2.0 10^{-10}	9.7 10^{-11}	5.5 10^{-11}	3.7 10^{-11}	2.9 10^{-11}
Sm-156	9.40 h	0.005	2.8 10^{-9}	5.0 10^{-4}	1.8 10^{-9}	9.0 10^{-10}	5.4 10^{-10}	3.1 10^{-10}	2.5 10^{-10}
Europium									
Eu-145	5.94 d	0.005	5.1 10^{-9}	5.0 10^{-4}	3.7 10^{-9}	2.1 10^{-9}	1.4 10^{-9}	9.4 10^{-10}	7.5 10^{-10}
Eu-146	4.61 d	0.005	8.5 10^{-9}	5.0 10^{-4}	6.2 10^{-9}	3.6 10^{-9}	2.4 10^{-9}	1.6 10^{-9}	1.3 10^{-9}
Eu-147	24.0 d	0.005	3.7 10^{-9}	5.0 10^{-4}	2.5 10^{-9}	1.4 10^{-9}	8.9 10^{-10}	5.6 10^{-10}	4.4 10^{-10}
Eu-148	54.5 d	0.005	8.5 10^{-9}	5.0 10^{-4}	6.0 10^{-9}	3.5 10^{-9}	2.4 10^{-9}	1.6 10^{-9}	1.3 10^{-9}
Eu-149	93.1 d	0.005	9.7 10^{-10}	5.0 10^{-4}	6.3 10^{-10}	3.4 10^{-10}	2.1 10^{-10}	1.3 10^{-10}	1.0 10^{-10}
Eu-150	34.2 a	0.005	1.3 10^{-8}	5.0 10^{-4}	5.7 10^{-9}	3.4 10^{-9}	2.3 10^{-9}	1.5 10^{-9}	1.3 10^{-9}
Eu-150	12.6 h	0.005	4.4 10^{-9}	5.0 10^{-4}	2.8 10^{-9}	1.4 10^{-9}	8.2 10^{-10}	4.7 10^{-10}	3.8 10^{-10}
Eu-152	13.3 a	0.005	1.6 10^{-8}	5.0 10^{-4}	7.4 10^{-9}	4.1 10^{-9}	2.6 10^{-9}	1.7 10^{-9}	1.4 10^{-9}
Eu-152m	9.32 h	0.005	5.7 10^{-9}	5.0 10^{-4}	3.6 10^{-9}	1.8 10^{-9}	1.1 10^{-9}	6.2 10^{-10}	5.0 10^{-10}
Eu-154	8.80 a	0.005	2.5 10^{-8}	5.0 10^{-4}	1.2 10^{-8}	6.5 10^{-9}	4.1 10^{-9}	2.5 10^{-9}	2.0 10^{-9}
Eu-155	4.96 a	0.005	4.3 10^{-9}	5.0 10^{-4}	2.2 10^{-9}	1.1 10^{-9}	6.8 10^{-10}	4.0 10^{-10}	3.2 10^{-10}
Eu-156	15.2 d	0.005	2.2 10^{-8}	5.0 10^{-4}	1.5 10^{-8}	7.5 10^{-9}	4.6 10^{-9}	2.7 10^{-9}	2.2 10^{-9}
Eu-157	15.1 h	0.005	6.7 10^{-9}	5.0 10^{-4}	4.3 10^{-9}	2.2 10^{-9}	1.3 10^{-9}	7.5 10^{-10}	6.0 10^{-10}
Eu-158	0.765 h	0.005	1.1 10^{-9}	5.0 10^{-4}	6.2 10^{-10}	3.1 10^{-10}	1.8 10^{-10}	1.2 10^{-10}	9.4 10^{-11}

TABLE A (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
		f_1 for $g \le 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Gadolinium									
Gd-145	0.382 h	0.005	$4.5\ 10^{-10}$	$5.0\ 10^{-4}$	$2.6\ 10^{-10}$	$1.3\ 10^{-10}$	$8.1\ 10^{-11}$	$5.6\ 10^{-11}$	$4.4\ 10^{-11}$
Gd-146	48.3 d	0.005	$9.4\ 10^{-9}$	$5.0\ 10^{-4}$	$6.0\ 10^{-9}$	$3.2\ 10^{-9}$	$2.0\ 10^{-9}$	$1.2\ 10^{-9}$	$9.6\ 10^{-10}$
Gd-147	1.59 d	0.005	$4.5\ 10^{-9}$	$5.0\ 10^{-4}$	$3.2\ 10^{-9}$	$1.8\ 10^{-9}$	$1.2\ 10^{-9}$	$7.7\ 10^{-10}$	$6.1\ 10^{-10}$
Gd-148	93.0 a	0.005	$1.7\ 10^{-6}$	$5.0\ 10^{-4}$	$1.6\ 10^{-7}$	$1.1\ 10^{-7}$	$7.3\ 10^{-8}$	$5.9\ 10^{-8}$	$5.6\ 10^{-8}$
Gd-149	9.40 d	0.005	$4.0\ 10^{-9}$	$5.0\ 10^{-4}$	$2.7\ 10^{-9}$	$1.5\ 10^{-9}$	$9.3\ 10^{-10}$	$5.7\ 10^{-10}$	$4.5\ 10^{-10}$
Gd-151	120 d	0.005	$2.1\ 10^{-9}$	$5.0\ 10^{-4}$	$1.3\ 10^{-9}$	$6.8\ 10^{-10}$	$4.2\ 10^{-10}$	$2.4\ 10^{-10}$	$2.0\ 10^{-10}$
Gd-152	$1.08\ 10^{14}$ a	0.005	$1.2\ 10^{-6}$	$5.0\ 10^{-4}$	$1.2\ 10^{-7}$	$7.7\ 10^{-8}$	$5.3\ 10^{-8}$	$4.3\ 10^{-8}$	$4.1\ 10^{-8}$
Gd-153	242 d	0.005	$2.9\ 10^{-9}$	$5.0\ 10^{-4}$	$1.8\ 10^{-9}$	$9.4\ 10^{-10}$	$5.8\ 10^{-10}$	$3.4\ 10^{-10}$	$2.7\ 10^{-10}$
Gd-159	18.6 h	0.005	$5.7\ 10^{-9}$	$5.0\ 10^{-4}$	$3.6\ 10^{-9}$	$1.8\ 10^{-9}$	$1.1\ 10^{-9}$	$6.2\ 10^{-10}$	$4.9\ 10^{-10}$
Terbium									
Tb-147	1.65 h	0.005	$1.5\ 10^{-9}$	$5.0\ 10^{-4}$	$1.0\ 10^{-9}$	$5.4\ 10^{-10}$	$3.3\ 10^{-10}$	$2.0\ 10^{-10}$	$1.6\ 10^{-10}$
Tb-149	4.15 h	0.005	$2.4\ 10^{-9}$	$5.0\ 10^{-4}$	$1.5\ 10^{-9}$	$8.0\ 10^{-10}$	$5.0\ 10^{-10}$	$3.1\ 10^{-10}$	$2.5\ 10^{-10}$
Tb-150	3.27 h	0.005	$2.5\ 10^{-9}$	$5.0\ 10^{-4}$	$1.6\ 10^{-9}$	$8.3\ 10^{-10}$	$5.1\ 10^{-10}$	$3.2\ 10^{-10}$	$2.5\ 10^{-10}$
Tb-151	17.6 h	0.005	$2.7\ 10^{-9}$	$5.0\ 10^{-4}$	$1.9\ 10^{-9}$	$1.0\ 10^{-9}$	$6.7\ 10^{-10}$	$4.2\ 10^{-10}$	$3.4\ 10^{-10}$
Tb-153	2.34 d	0.005	$2.3\ 10^{-9}$	$5.0\ 10^{-4}$	$1.5\ 10^{-9}$	$8.2\ 10^{-10}$	$5.1\ 10^{-10}$	$3.1\ 10^{-10}$	$2.5\ 10^{-10}$
Tb-154	21.4 h	0.005	$4.7\ 10^{-9}$	$5.0\ 10^{-4}$	$3.4\ 10^{-9}$	$1.9\ 10^{-9}$	$1.3\ 10^{-9}$	$8.1\ 10^{-10}$	$6.5\ 10^{-10}$
Tb-155	5.32 d	0.005	$1.9\ 10^{-9}$	$5.0\ 10^{-4}$	$1.3\ 10^{-9}$	$6.8\ 10^{-10}$	$4.3\ 10^{-10}$	$2.6\ 10^{-10}$	$2.1\ 10^{-10}$
Tb-156	5.34 d	0.005	$9.0\ 10^{-9}$	$5.0\ 10^{-4}$	$6.3\ 10^{-9}$	$3.5\ 10^{-9}$	$2.3\ 10^{-9}$	$1.5\ 10^{-9}$	$1.2\ 10^{-9}$
Tb-156m	1.02 d	0.005	$1.5\ 10^{-9}$	$5.0\ 10^{-4}$	$1.0\ 10^{-9}$	$5.6\ 10^{-10}$	$3.5\ 10^{-10}$	$2.2\ 10^{-10}$	$1.7\ 10^{-10}$
Tb-156m	5.00 h	0.005	$8.0\ 10^{-10}$	$5.0\ 10^{-4}$	$5.2\ 10^{-10}$	$2.7\ 10^{-10}$	$1.7\ 10^{-10}$	$1.0\ 10^{-10}$	$8.1\ 10^{-11}$
Tb-157	$1.50\ 10^{2}$ a	0.005	$4.9\ 10^{-10}$	$5.0\ 10^{-4}$	$2.2\ 10^{-10}$	$1.1\ 10^{-10}$	$6.8\ 10^{-11}$	$4.1\ 10^{-11}$	$3.4\ 10^{-11}$
Tb-158	$1.50\ 10^{2}$ a	0.005	$1.3\ 10^{-8}$	$5.0\ 10^{-4}$	$5.9\ 10^{-9}$	$3.3\ 10^{-9}$	$2.1\ 10^{-9}$	$1.4\ 10^{-9}$	$1.1\ 10^{-9}$
Tb-160	72.3 d	0.005	$1.6\ 10^{-8}$	$5.0\ 10^{-4}$	$1.0\ 10^{-8}$	$5.4\ 10^{-9}$	$3.3\ 10^{-9}$	$2.0\ 10^{-9}$	$1.6\ 10^{-9}$
Tb-161	6.91 d	0.005	$8.3\ 10^{-9}$	$5.0\ 10^{-4}$	$5.3\ 10^{-9}$	$2.7\ 10^{-9}$	$1.6\ 10^{-9}$	$9.0\ 10^{-10}$	$7.2\ 10^{-10}$
Dysprosium									
Dy-155	10.0 h	0.005	$9.7\ 10^{-10}$	$5.0\ 10^{-4}$	$6.8\ 10^{-10}$	$3.8\ 10^{-10}$	$2.5\ 10^{-10}$	$1.6\ 10^{-10}$	$1.3\ 10^{-10}$
Dy-157	8.10 h	0.005	$4.4\ 10^{-10}$	$5.0\ 10^{-4}$	$3.1\ 10^{-10}$	$1.8\ 10^{-10}$	$1.2\ 10^{-10}$	$7.7\ 10^{-11}$	$6.1\ 10^{-11}$
Dy-159	144 d	0.005	$1.0\ 10^{-9}$	$5.0\ 10^{-4}$	$6.4\ 10^{-10}$	$3.4\ 10^{-10}$	$2.1\ 10^{-10}$	$1.3\ 10^{-10}$	$1.0\ 10^{-10}$
Dy-165	2.33 h	0.005	$1.3\ 10^{-9}$	$5.0\ 10^{-4}$	$7.9\ 10^{-10}$	$3.9\ 10^{-10}$	$2.3\ 10^{-10}$	$1.4\ 10^{-10}$	$1.1\ 10^{-10}$
Dy-166	3.40 d	0.005	$1.9\ 10^{-8}$	$5.0\ 10^{-4}$	$1.2\ 10^{-8}$	$6.0\ 10^{-9}$	$3.6\ 10^{-9}$	$2.0\ 10^{-9}$	$1.6\ 10^{-9}$
Holmium									
Ho-155	0.800 h	0.005	$3.8\ 10^{-10}$	$5.0\ 10^{-4}$	$2.3\ 10^{-10}$	$1.2\ 10^{-10}$	$7.1\ 10^{-11}$	$4.7\ 10^{-11}$	$3.7\ 10^{-11}$
Ho-157	0.210 h	0.005	$5.8\ 10^{-11}$	$5.0\ 10^{-4}$	$3.6\ 10^{-11}$	$1.9\ 10^{-11}$	$1.2\ 10^{-11}$	$8.1\ 10^{-12}$	$6.5\ 10^{-12}$
Ho-159	0.550 h	0.005	$7.1\ 10^{-11}$	$5.0\ 10^{-4}$	$4.3\ 10^{-11}$	$2.3\ 10^{-11}$	$1.4\ 10^{-11}$	$9.9\ 10^{-12}$	$7.9\ 10^{-12}$
Ho-161	2.50 h	0.005	$1.4\ 10^{-10}$	$5.0\ 10^{-4}$	$8.1\ 10^{-11}$	$4.2\ 10^{-11}$	$2.5\ 10^{-11}$	$1.6\ 10^{-11}$	$1.3\ 10^{-11}$
Ho-162	0.250 h	0.005	$3.5\ 10^{-11}$	$5.0\ 10^{-4}$	$2.0\ 10^{-11}$	$1.0\ 10^{-11}$	$6.0\ 10^{-12}$	$4.2\ 10^{-12}$	$3.3\ 10^{-12}$
Ho-162m	1.13 h	0.005	$2.4\ 10^{-10}$	$5.0\ 10^{-4}$	$1.5\ 10^{-10}$	$7.9\ 10^{-11}$	$4.9\ 10^{-11}$	$3.3\ 10^{-11}$	$2.6\ 10^{-11}$
Ho-164	0.483 h	0.005	$1.2\ 10^{-10}$	$5.0\ 10^{-4}$	$6.5\ 10^{-11}$	$3.2\ 10^{-11}$	$1.8\ 10^{-11}$	$1.2\ 10^{-11}$	$9.5\ 10^{-12}$
Ho-164m	0.625 h	0.005	$2.0\ 10^{-10}$	$5.0\ 10^{-4}$	$1.1\ 10^{-10}$	$5.5\ 10^{-11}$	$3.2\ 10^{-11}$	$2.1\ 10^{-11}$	$1.6\ 10^{-11}$
Ho-166	1.12 d	0.005	$1.6\ 10^{-8}$	$5.0\ 10^{-4}$	$1.0\ 10^{-8}$	$5.2\ 10^{-9}$	$3.1\ 10^{-9}$	$1.7\ 10^{-9}$	$1.4\ 10^{-9}$
Ho-166m	$1.20\ 10^{3}$ a	0.005	$2.6\ 10^{-8}$	$5.0\ 10^{-4}$	$9.3\ 10^{-9}$	$5.3\ 10^{-9}$	$3.5\ 10^{-9}$	$2.4\ 10^{-9}$	$2.0\ 10^{-9}$
Ho-167	3.10 h	0.005	$8.8\ 10^{-10}$	$5.0\ 10^{-4}$	$5.5\ 10^{-10}$	$2.8\ 10^{-10}$	$1.7\ 10^{-10}$	$1.0\ 10^{-10}$	$8.3\ 10^{-11}$
Erbium									
Er-161	3.24 h	0.005	$6.5\ 10^{-10}$	$5.0\ 10^{-4}$	$4.4\ 10^{-10}$	$2.4\ 10^{-10}$	$1.6\ 10^{-10}$	$1.0\ 10^{-10}$	$8.0\ 10^{-11}$
Er-165	10.4 h	0.005	$1.7\ 10^{-10}$	$5.0\ 10^{-4}$	$1.1\ 10^{-10}$	$6.2\ 10^{-11}$	$3.9\ 10^{-11}$	$2.4\ 10^{-11}$	$1.9\ 10^{-11}$
Er-169	9.30 d	0.005	$4.4\ 10^{-9}$	$5.0\ 10^{-4}$	$2.8\ 10^{-9}$	$1.4\ 10^{-9}$	$8.2\ 10^{-10}$	$4.7\ 10^{-10}$	$3.7\ 10^{-10}$
Er-171	7.52 h	0.005	$4.0\ 10^{-9}$	$5.0\ 10^{-4}$	$2.5\ 10^{-9}$	$1.3\ 10^{-9}$	$7.6\ 10^{-10}$	$4.5\ 10^{-10}$	$3.6\ 10^{-10}$
Er-172	2.05 d	0.005	$1.0\ 10^{-8}$	$5.0\ 10^{-4}$	$6.8\ 10^{-9}$	$3.5\ 10^{-9}$	$2.1\ 10^{-9}$	$1.3\ 10^{-9}$	$1.0\ 10^{-9}$
Thulium									
Tm-162	0.362 h	0.005	$2.9\ 10^{-10}$	$5.0\ 10^{-4}$	$1.7\ 10^{-10}$	$8.7\ 10^{-11}$	$5.2\ 10^{-11}$	$3.6\ 10^{-11}$	$2.9\ 10^{-11}$
Tm-166	7.70 h	0.005	$2.1\ 10^{-9}$	$5.0\ 10^{-4}$	$1.5\ 10^{-9}$	$8.3\ 10^{-10}$	$5.5\ 10^{-10}$	$3.5\ 10^{-10}$	$2.8\ 10^{-10}$
Tm-167	9.24 d	0.005	$6.0\ 10^{-9}$	$5.0\ 10^{-4}$	$3.9\ 10^{-9}$	$2.0\ 10^{-9}$	$1.2\ 10^{-9}$	$7.0\ 10^{-10}$	$5.6\ 10^{-10}$
Tm-170	129 d	0.005	$1.6\ 10^{-8}$	$5.0\ 10^{-4}$	$9.8\ 10^{-9}$	$4.9\ 10^{-9}$	$2.9\ 10^{-9}$	$1.6\ 10^{-9}$	$1.3\ 10^{-9}$
Tm-171	1.92 a	0.005	$1.5\ 10^{-9}$	$5.0\ 10^{-4}$	$7.8\ 10^{-10}$	$3.9\ 10^{-10}$	$2.3\ 10^{-10}$	$1.3\ 10^{-10}$	$1.1\ 10^{-10}$
Tm-172	2.65 d	0.005	$1.9\ 10^{-8}$	$5.0\ 10^{-4}$	$1.2\ 10^{-8}$	$6.1\ 10^{-9}$	$3.7\ 10^{-9}$	$2.1\ 10^{-9}$	$1.7\ 10^{-9}$
Tm-173	8.24 h	0.005	$3.3\ 10^{-9}$	$5.0\ 10^{-4}$	$2.1\ 10^{-9}$	$1.1\ 10^{-9}$	$6.5\ 10^{-10}$	$3.8\ 10^{-10}$	$3.1\ 10^{-10}$
Tm-175	0.253 h	0.005	$3.1\ 10^{-10}$	$5.0\ 10^{-4}$	$1.7\ 10^{-10}$	$8.6\ 10^{-11}$	$5.0\ 10^{-11}$	$3.4\ 10^{-11}$	$2.7\ 10^{-11}$
Ytterbium									
Yb-162	0.315 h	0.005	$2.2\ 10^{-10}$	$5.0\ 10^{-4}$	$1.3\ 10^{-10}$	$6.9\ 10^{-11}$	$4.2\ 10^{-11}$	$2.9\ 10^{-11}$	$2.3\ 10^{-11}$
Yb-166	2.36 d	0.005	$7.7\ 10^{-9}$	$5.0\ 10^{-4}$	$5.4\ 10^{-9}$	$2.9\ 10^{-9}$	$1.9\ 10^{-9}$	$1.2\ 10^{-9}$	$9.5\ 10^{-10}$

TABLE A (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
		f_1 for $g \leq 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Yb-167	0.292 h	0.005	7.0 10^{-11}	5.0 10^{-4}	4.1 10^{-11}	2.1 10^{-11}	1.2 10^{-11}	8.4 10^{-12}	6.7 10^{-12}
Yb-169	32.0 d	0.005	7.1 10^{-9}	5.0 10^{-4}	4.6 10^{-9}	2.4 10^{-9}	1.5 10^{-9}	8.8 10^{-10}	7.1 10^{-10}
Yb-175	4.19 d	0.005	5.0 10^{-9}	5.0 10^{-4}	3.2 10^{-9}	1.6 10^{-9}	9.5 10^{-10}	5.4 10^{-10}	4.4 10^{-10}
Yb-177	1.90 h	0.005	1.0 10^{-9}	5.0 10^{-4}	6.8 10^{-10}	3.4 10^{-10}	2.0 10^{-10}	1.1 10^{-10}	8.8 10^{-11}
Yb-178	1.23 h	0.005	1.4 10^{-9}	5.0 10^{-4}	8.4 10^{-10}	4.2 10^{-10}	2.4 10^{-10}	1.5 10^{-10}	1.2 10^{-10}
Lutetium									
Lu-169	1.42 d	0.005	3.5 10^{-9}	5.0 10^{-4}	2.4 10^{-9}	1.4 10^{-9}	8.9 10^{-10}	5.7 10^{-10}	4.6 10^{-10}
Lu-170	2.00 d	0.005	7.4 10^{-9}	5.0 10^{-4}	5.2 10^{-9}	2.9 10^{-9}	1.9 10^{-9}	1.2 10^{-9}	9.9 10^{-10}
Lu-171	8.22 d	0.005	5.9 10^{-9}	5.0 10^{-4}	4.0 10^{-9}	2.2 10^{-9}	1.4 10^{-9}	8.5 10^{-10}	6.7 10^{-10}
Lu-172	6.70 d	0.005	1.0 10^{-8}	5.0 10^{-4}	7.0 10^{-9}	3.9 10^{-9}	2.5 10^{-9}	1.6 10^{-9}	1.3 10^{-9}
Lu-173	1.37 a	0.005	2.7 10^{-9}	5.0 10^{-4}	1.6 10^{-9}	8.6 10^{-10}	5.3 10^{-10}	3.2 10^{-10}	2.6 10^{-10}
Lu-174	3.31 a	0.005	3.2 10^{-9}	5.0 10^{-4}	1.7 10^{-9}	9.1 10^{-10}	5.6 10^{-10}	3.3 10^{-10}	2.7 10^{-10}
Lu-174m	142 d	0.005	6.2 10^{-9}	5.0 10^{-4}	3.8 10^{-9}	1.9 10^{-9}	1.1 10^{-9}	6.6 10^{-10}	5.3 10^{-10}
Lu-176	3.60 10^{10} a	0.005	2.4 10^{-8}	5.0 10^{-4}	1.1 10^{-8}	5.7 10^{-9}	3.5 10^{-9}	2.2 10^{-9}	1.8 10^{-9}
Lu-176m	3.68 h	0.005	2.0 10^{-9}	5.0 10^{-4}	1.2 10^{-9}	6.0 10^{-10}	3.5 10^{-10}	2.1 10^{-10}	1.7 10^{-10}
Lu-177	6.71 d	0.005	6.1 10^{-9}	5.0 10^{-4}	3.9 10^{-9}	2.0 10^{-9}	1.2 10^{-9}	6.6 10^{-10}	5.3 10^{-10}
Lu-177m	161 d	0.005	1.7 10^{-8}	5.0 10^{-4}	1.1 10^{-8}	5.8 10^{-9}	3.6 10^{-9}	2.1 10^{-9}	1.7 10^{-9}
Lu-178	0.473 h	0.005	5.9 10^{-10}	5.0 10^{-4}	3.3 10^{-10}	1.6 10^{-10}	9.0 10^{-11}	6.1 10^{-11}	4.7 10^{-11}
Lu-178m	0.378 h	0.005	4.3 10^{-10}	5.0 10^{-4}	2.4 10^{-10}	1.2 10^{-10}	7.1 10^{-11}	4.9 10^{-11}	3.8 10^{-11}
Lu-179	4.59 h	0.005	2.4 10^{-9}	5.0 10^{-4}	1.5 10^{-9}	7.5 10^{-10}	4.4 10^{-10}	2.6 10^{-10}	2.1 10^{-10}
Hafnium									
Hf-170	16.0 h	0.020	3.9 10^{-9}	0.002	2.7 10^{-9}	1.5 10^{-9}	9.5 10^{-10}	6.0 10^{-10}	4.8 10^{-10}
Hf-172	1.87 a	0.020	1.9 10^{-8}	0.002	6.1 10^{-9}	3.3 10^{-9}	2.0 10^{-9}	1.3 10^{-9}	1.0 10^{-9}
Hf-173	24.0 h	0.020	1.9 10^{-9}	0.002	1.3 10^{-9}	7.2 10^{-10}	4.6 10^{-10}	2.8 10^{-10}	2.3 10^{-10}
Hf-175	70.0 d	0.020	3.8 10^{-9}	0.002	2.4 10^{-9}	1.3 10^{-9}	8.4 10^{-10}	5.2 10^{-10}	4.1 10^{-10}
Hf-177m	0.856 h	0.020	7.8 10^{-10}	0.002	4.7 10^{-10}	2.5 10^{-10}	1.5 10^{-10}	1.0 10^{-10}	8.1 10^{-11}
Hf-178m	31.0 a	0.020	7.0 10^{-8}	0.002	1.9 10^{-8}	1.1 10^{-8}	7.8 10^{-9}	5.5 10^{-9}	4.7 10^{-9}
Hf-179m	25.1 d	0.020	1.2 10^{-8}	0.002	7.8 10^{-9}	4.1 10^{-9}	2.6 10^{-9}	1.6 10^{-9}	1.2 10^{-9}
Hf-180m	5.50 h	0.020	1.4 10^{-9}	0.002	9.7 10^{-10}	5.3 10^{-10}	3.3 10^{-10}	2.1 10^{-10}	1.7 10^{-10}
Hf-181	42.4 d	0.020	1.2 10^{-8}	0.002	7.4 10^{-9}	3.8 10^{-9}	2.3 10^{-9}	1.4 10^{-9}	1.1 10^{-9}
Hf-182	9.00 10^{6} a	0.020	5.6 10^{-8}	0.002	7.9 10^{-9}	5.4 10^{-9}	4.0 10^{-9}	3.3 10^{-9}	3.0 10^{-9}
Hf-182m	1.02 h	0.020	4.1 10^{-10}	0.002	2.5 10^{-10}	1.3 10^{-10}	7.8 10^{-11}	5.2 10^{-11}	4.2 10^{-11}
Hf-183	1.07 h	0.020	8.1 10^{-10}	0.002	4.8 10^{-10}	2.4 10^{-10}	1.4 10^{-10}	9.3 10^{-11}	7.3 10^{-11}
Hf-184	4.12 h	0.020	5.5 10^{-9}	0.002	3.6 10^{-9}	1.8 10^{-9}	1.1 10^{-9}	6.6 10^{-10}	5.2 10^{-10}
Tantalum									
Ta-172	0.613 h	0.010	5.5 10^{-10}	0.001	3.2 10^{-10}	1.6 10^{-10}	9.8 10^{-11}	6.6 10^{-11}	5.3 10^{-11}
Ta-173	3.65 h	0.010	2.0 10^{-9}	0.001	1.3 10^{-9}	6.5 10^{-10}	3.9 10^{-10}	2.4 10^{-10}	1.9 10^{-10}
Ta-174	1.20 h	0.010	6.2 10^{-10}	0.001	3.7 10^{-10}	1.9 10^{-10}	1.1 10^{-10}	7.2 10^{-11}	5.7 10^{-11}
Ta-175	10.5 h	0.010	1.6 10^{-9}	0.001	1.1 10^{-9}	6.2 10^{-10}	4.0 10^{-10}	2.6 10^{-10}	2.1 10^{-10}
Ta-176	8.08 h	0.010	2.4 10^{-9}	0.001	1.7 10^{-9}	9.2 10^{-10}	6.1 10^{-10}	3.9 10^{-10}	3.1 10^{-10}
Ta-177	2.36 d	0.010	1.0 10^{-9}	0.001	6.9 10^{-10}	3.6 10^{-10}	2.2 10^{-10}	1.3 10^{-10}	1.1 10^{-10}
Ta-178	2.20 h	0.010	6.3 10^{-10}	0.001	4.5 10^{-10}	2.4 10^{-10}	1.5 10^{-10}	9.1 10^{-11}	7.2 10^{-11}
Ta-179	1.82 a	0.010	6.2 10^{-10}	0.001	4.1 10^{-10}	2.2 10^{-10}	1.3 10^{-10}	8.1 10^{-11}	6.5 10^{-11}
Ta-180	1.00 10^{13} a	0.010	8.1 10^{-9}	0.001	5.3 10^{-9}	2.8 10^{-9}	1.7 10^{-9}	1.1 10^{-9}	8.4 10^{-10}
Ta-180m	8.10 h	0.010	5.8 10^{-10}	0.001	3.7 10^{-10}	1.9 10^{-10}	1.1 10^{-10}	6.7 10^{-11}	5.4 10^{-11}
Ta-182	115 d	0.010	1.4 10^{-8}	0.001	9.4 10^{-9}	5.0 10^{-9}	3.1 10^{-9}	1.9 10^{-9}	1.5 10^{-9}
Ta-182m	0.264 h	0.010	1.4 10^{-10}	0.001	7.5 10^{-11}	3.7 10^{-11}	2.1 10^{-11}	1.5 10^{-11}	1.2 10^{-11}
Ta-183	5.10 d	0.010	1.4 10^{-8}	0.001	9.3 10^{-9}	4.7 10^{-9}	2.8 10^{-9}	1.6 10^{-9}	1.3 10^{-9}
Ta-184	8.70 h	0.010	6.7 10^{-9}	0.001	4.4 10^{-9}	2.3 10^{-9}	1.4 10^{-9}	8.5 10^{-10}	6.8 10^{-10}
Ta-185	0.816 h	0.010	8.3 10^{-10}	0.001	4.6 10^{-10}	2.3 10^{-10}	1.3 10^{-10}	8.6 10^{-11}	6.8 10^{-11}
Ta-186	0.175 h	0.010	3.8 10^{-10}	0.001	2.1 10^{-10}	1.1 10^{-10}	6.1 10^{-11}	4.2 10^{-11}	3.3 10^{-11}
Tungsten									
W-176	2.30 h	0.600	6.8 10^{-10}	0.300	5.5 10^{-10}	3.0 10^{-10}	2.0 10^{-10}	1.3 10^{-10}	1.0 10^{-10}
W-177	2.25 h	0.600	4.4 10^{-10}	0.300	3.2 10^{-10}	1.7 10^{-10}	1.1 10^{-10}	7.2 10^{-11}	5.8 10^{-11}
W-178	21.7 d	0.600	1.8 10^{-9}	0.300	1.4 10^{-9}	7.3 10^{-10}	4.5 10^{-10}	2.7 10^{-10}	2.2 10^{-10}
W-179	0.625 h	0.600	3.4 10^{-11}	0.300	2.0 10^{-11}	1.0 10^{-11}	6.2 10^{-12}	4.2 10^{-12}	3.3 10^{-12}
W-181	121 d	0.600	6.3 10^{-10}	0.300	4.7 10^{-10}	2.5 10^{-10}	1.6 10^{-10}	9.5 10^{-11}	7.6 10^{-11}
W-185	75.1 d	0.600	4.4 10^{-9}	0.300	3.3 10^{-9}	1.6 10^{-9}	9.7 10^{-10}	5.5 10^{-10}	4.4 10^{-10}
W-187	23.9 h	0.600	5.5 10^{-9}	0.300	4.3 10^{-9}	2.2 10^{-9}	1.3 10^{-9}	7.8 10^{-10}	6.3 10^{-10}
W-188	69.4 d	0.600	2.1 10^{-8}	0.300	1.5 10^{-8}	7.7 10^{-9}	4.6 10^{-9}	2.6 10^{-9}	2.1 10^{-9}

TABLE A (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
		f_1 for $g \le 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Rhenium									
Re-177	0.233 h	1.000	2.5 10^{-10}	0.800	1.4 10^{-10}	7.2 10^{-11}	4.1 10^{-11}	2.8 10^{-11}	2.2 10^{-11}
Re-178	0.220 h	1.000	2.9 10^{-10}	0.800	1.6 10^{-10}	7.9 10^{-11}	4.6 10^{-11}	3.1 10^{-11}	2.5 10^{-11}
Re-181	20.0 h	1.000	4.2 10^{-9}	0.800	2.8 10^{-9}	1.4 10^{-9}	8.2 10^{-10}	5.4 10^{-10}	4.2 10^{-10}
Re-182	2.67 d	1.000	1.4 10^{-8}	0.800	8.9 10^{-9}	4.7 10^{-9}	2.8 10^{-9}	1.8 10^{-9}	1.4 10^{-9}
Re-182	12.7 h	1.000	2.4 10^{-9}	0.800	1.7 10^{-9}	8.9 10^{-10}	5.2 10^{-10}	3.5 10^{-10}	2.7 10^{-10}
Re-184	38.0 d	1.000	8.9 10^{-9}	0.800	5.6 10^{-9}	3.0 10^{-9}	1.8 10^{-9}	1.3 10^{-9}	1.0 10^{-9}
Re-184m	165 d	1.000	1.7 10^{-8}	0.800	9.8 10^{-9}	4.9 10^{-9}	2.8 10^{-9}	1.9 10^{-9}	1.5 10^{-9}
Re-186	3.78 d	1.000	1.9 10^{-8}	0.800	1.1 10^{-8}	5.5 10^{-9}	3.0 10^{-9}	1.9 10^{-9}	1.5 10^{-9}
Re-186m	2.00 10^{5} a	1.000	3.0 10^{-8}	0.800	1.6 10^{-8}	7.6 10^{-9}	4.4 10^{-9}	2.8 10^{-9}	2.2 10^{-9}
Re-187	5.00 10^{10} a	1.000	6.8 10^{-11}	0.800	3.8 10^{-11}	1.8 10^{-11}	1.0 10^{-11}	6.6 10^{-12}	5.1 10^{-12}
Re-188	17.0 h	1.000	1.7 10^{-8}	0.800	1.1 10^{-8}	5.4 10^{-9}	2.9 10^{-9}	1.8 10^{-9}	1.4 10^{-9}
Re-188m	0.310 h	1.000	3.8 10^{-10}	0.800	2.3 10^{-10}	1.1 10^{-10}	6.1 10^{-11}	4.0 10^{-11}	3.0 10^{-11}
Re-189	1.01 d	1.000	9.8 10^{-9}	0.800	6.2 10^{-9}	3.0 10^{-9}	1.6 10^{-9}	1.0 10^{-9}	7.8 10^{-10}
Osmium									
Os-180	0.366 h	0.020	1.6 10^{-10}	0.010	9.8 10^{-11}	5.1 10^{-11}	3.2 10^{-11}	2.2 10^{-11}	1.7 10^{-11}
Os-181	1.75 h	0.020	7.6 10^{-10}	0.010	5.0 10^{-10}	2.7 10^{-10}	1.7 10^{-10}	1.1 10^{-10}	8.9 10^{-11}
Os-182	22.0 h	0.020	4.6 10^{-9}	0.010	3.2 10^{-9}	1.7 10^{-9}	1.1 10^{-9}	7.0 10^{-10}	5.6 10^{-10}
Os-185	94.0 d	0.020	3.8 10^{-9}	0.010	2.6 10^{-9}	1.5 10^{-9}	9.8 10^{-10}	6.5 10^{-10}	5.1 10^{-10}
Os-189m	6.00 h	0.020	2.1 10^{-10}	0.010	1.3 10^{-10}	6.5 10^{-11}	3.8 10^{-11}	2.2 10^{-11}	1.8 10^{-11}
Os-191	15.4 d	0.020	6.3 10^{-9}	0.010	4.1 10^{-9}	2.1 10^{-9}	1.2 10^{-9}	7.0 10^{-10}	5.7 10^{-10}
Os-191m	13.0 h	0.020	1.1 10^{-9}	0.010	7.1 10^{-10}	3.5 10^{-10}	2.1 10^{-10}	1.2 10^{-10}	9.6 10^{-11}
Os-193	1.25 d	0.020	9.3 10^{-9}	0.010	6.0 10^{-9}	3.0 10^{-9}	1.8 10^{-9}	1.0 10^{-9}	8.1 10^{-10}
Os-194	6.00 a	0.020	2.9 10^{-8}	0.010	1.7 10^{-8}	8.8 10^{-9}	5.2 10^{-9}	3.0 10^{-9}	2.4 10^{-9}
Iridium									
Ir-182	0.250 h	0.020	5.3 10^{-10}	0.010	3.0 10^{-10}	1.5 10^{-10}	8.9 10^{-11}	6.0 10^{-11}	4.8 10^{-11}
Ir-184	3.02 h	0.020	1.5 10^{-9}	0.010	9.7 10^{-10}	5.2 10^{-10}	3.3 10^{-10}	2.1 10^{-10}	1.7 10^{-10}
Ir-185	14.0 h	0.020	2.4 10^{-9}	0.010	1.6 10^{-9}	8.6 10^{-10}	5.3 10^{-10}	3.3 10^{-10}	2.6 10^{-10}
Ir-186	15.8 h	0.020	3.8 10^{-9}	0.010	2.7 10^{-9}	1.5 10^{-9}	9.6 10^{-10}	6.1 10^{-10}	4.9 10^{-10}
Ir-186	1.75 h	0.020	5.8 10^{-10}	0.010	3.6 10^{-10}	2.1 10^{-10}	1.3 10^{-10}	7.7 10^{-11}	6.1 10^{-11}
Ir-187	10.5 h	0.020	1.1 10^{-9}	0.010	7.3 10^{-10}	3.9 10^{-10}	2.5 10^{-10}	1.5 10^{-10}	1.2 10^{-10}
Ir-188	1.73 d	0.020	4.6 10^{-9}	0.010	3.3 10^{-9}	1.8 10^{-9}	1.2 10^{-9}	7.9 10^{-10}	6.3 10^{-10}
Ir-189	13.3 d	0.020	2.5 10^{-9}	0.010	1.7 10^{-9}	8.6 10^{-10}	5.2 10^{-10}	3.0 10^{-10}	2.4 10^{-10}
Ir-190	12.1 d	0.020	1.0 10^{-8}	0.010	7.1 10^{-9}	3.9 10^{-9}	2.5 10^{-9}	1.6 10^{-9}	1.2 10^{-9}
Ir-190m	3.10 h	0.020	9.4 10^{-10}	0.010	6.4 10^{-10}	3.5 10^{-10}	2.3 10^{-10}	1.5 10^{-10}	1.2 10^{-10}
Ir-190m	1.20 h	0.020	7.9 10^{-11}	0.010	5.0 10^{-11}	2.6 10^{-11}	1.6 10^{-11}	1.0 10^{-11}	8.0 10^{-12}
Ir-192	74.0 d	0.020	1.3 10^{-8}	0.010	8.7 10^{-9}	4.6 10^{-9}	2.8 10^{-9}	1.7 10^{-9}	1.4 10^{-9}
Ir-192m	2.41 10^{2} a	0.020	2.8 10^{-9}	0.010	1.4 10^{-9}	8.3 10^{-10}	5.5 10^{-10}	3.7 10^{-10}	3.1 10^{-10}
Ir-193m	11.9 d	0.020	3.2 10^{-9}	0.010	2.0 10^{-9}	1.0 10^{-9}	6.0 10^{-10}	3.4 10^{-10}	2.7 10^{-10}
Ir-194	19.1 h	0.020	1.5 10^{-8}	0.010	9.8 10^{-9}	4.9 10^{-9}	2.9 10^{-9}	1.7 10^{-9}	1.3 10^{-9}
Ir-194m	171 d	0.020	1.7 10^{-8}	0.010	1.1 10^{-8}	6.4 10^{-9}	4.1 10^{-9}	2.6 10^{-9}	2.1 10^{-9}
Ir-195	2.50 h	0.020	1.2 10^{-9}	0.010	7.3 10^{-10}	3.6 10^{-10}	2.1 10^{-10}	1.3 10^{-10}	1.0 10^{-10}
Ir-195m	3.80 h	0.020	2.3 10^{-9}	0.010	1.5 10^{-9}	7.3 10^{-10}	4.3 10^{-10}	2.6 10^{-10}	2.1 10^{-10}
Platinum									
Pt-186	2.00 h	0.020	7.8 10^{-10}	0.010	5.3 10^{-10}	2.9 10^{-10}	1.8 10^{-10}	1.2 10^{-10}	9.3 10^{-11}
Pt-188	10.2 d	0.020	6.7 10^{-9}	0.010	4.5 10^{-9}	2.4 10^{-9}	1.5 10^{-9}	9.5 10^{-10}	7.6 10^{-10}
Pt-189	10.9 h	0.020	1.1 10^{-9}	0.010	7.4 10^{-10}	3.9 10^{-10}	2.5 10^{-10}	1.5 10^{-10}	1.2 10^{-10}
Pt-191	2.80 d	0.020	3.1 10^{-9}	0.010	2.1 10^{-9}	1.1 10^{-9}	6.9 10^{-10}	4.2 10^{-10}	3.4 10^{-10}
Pt-193	50.0 a	0.020	3.7 10^{-10}	0.010	2.4 10^{-10}	1.2 10^{-10}	6.9 10^{-11}	3.9 10^{-11}	3.1 10^{-11}
Pt-193m	4.33 d	0.020	5.2 10^{-9}	0.010	3.4 10^{-9}	1.7 10^{-9}	9.9 10^{-10}	5.6 10^{-10}	4.5 10^{-10}
Pt-195m	4.02 d	0.020	7.1 10^{-9}	0.010	4.6 10^{-9}	2.3 10^{-9}	1.4 10^{-9}	7.9 10^{-10}	6.3 10^{-10}
Pt-197	18.3 h	0.020	4.7 10^{-9}	0.010	3.0 10^{-9}	1.5 10^{-9}	8.8 10^{-10}	5.1 10^{-10}	4.0 10^{-10}
Pt-197m	1.57 h	0.020	1.0 10^{-9}	0.010	6.1 10^{-10}	3.0 10^{-10}	1.8 10^{-10}	1.1 10^{-10}	8.4 10^{-11}
Pt-199	0.513 h	0.020	4.7 10^{-10}	0.010	2.7 10^{-10}	1.3 10^{-10}	7.5 10^{-11}	5.0 10^{-11}	3.9 10^{-11}
Pt-200	12.5 h	0.020	1.4 10^{-8}	0.010	8.8 10^{-9}	4.4 10^{-9}	2.6 10^{-9}	1.5 10^{-9}	1.2 10^{-9}
Gold									
Au-193	17.6 h	0.200	1.2 10^{-9}	0.100	8.8 10^{-10}	4.6 10^{-10}	2.8 10^{-10}	1.7 10^{-10}	1.3 10^{-10}
Au-194	1.65 h	0.200	2.9 10^{-9}	0.100	2.2 10^{-9}	1.2 10^{-9}	8.1 10^{-10}	5.3 10^{-10}	4.2 10^{-10}
Au-195	183 d	0.200	2.4 10^{-9}	0.100	1.7 10^{-9}	8.9 10^{-10}	5.4 10^{-10}	3.2 10^{-10}	2.5 10^{-10}
Au-198	2.69 d	0.200	1.0 10^{-8}	0.100	7.2 10^{-9}	3.7 10^{-9}	2.2 10^{-9}	1.3 10^{-9}	1.0 10^{-9}
Au-198m	2.30 d	0.200	1.2 10^{-8}	0.100	8.5 10^{-9}	4.4 10^{-9}	2.7 10^{-9}	1.6 10^{-9}	1.3 10^{-9}
Au-199	3.14 d	0.200	4.5 10^{-9}	0.100	3.1 10^{-9}	1.6 10^{-9}	9.5 10^{-10}	5.5 10^{-10}	4.4 10^{-10}
Au-200	0.807 h	0.200	8.3 10^{-10}	0.100	4.7 10^{-10}	2.3 10^{-10}	1.3 10^{-10}	8.7 10^{-11}	6.8 10^{-11}

TABLE A (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
		f_1 for $g \le 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Au-200m	18.7 h	0.200	9.2 10^{-9}	0.100	6.6 10^{-9}	3.5 10^{-9}	2.2 10^{-9}	1.3 10^{-9}	1.1 10^{-9}
Au-201	0.440 h	0.200	3.1 10^{-10}	0.100	1.7 10^{-10}	8.2 10^{-11}	4.6 10^{-11}	3.1 10^{-11}	2.4 10^{-11}
Mercury									
Hg-193	3.50 h	1.000	3.3 10^{-10}	1.000	1.9 10^{-10}	9.8 10^{-11}	5.8 10^{-11}	3.9 10^{-11}	3.1 10^{-11}
(organic)		0.800	4.7 10^{-10}	0.400	4.4 10^{-10}	2.2 10^{-10}	1.4 10^{-10}	8.3 10^{-11}	6.6 10^{-11}
Hg-193	3.50 h	0.040	8.5 10^{-10}	0.020	5.5 10^{-10}	2.8 10^{-10}	1.7 10^{-10}	1.0 10^{-10}	8.2 10^{-11}
(inorganic)									
Hg-193m	11.1 h	1.000	1.1 10^{-9}	1.000	6.8 10^{-10}	3.7 10^{-10}	2.3 10^{-10}	1.5 10^{-10}	1.3 10^{-10}
(organic)		0.800	1.6 10^{-9}	0.400	1.8 10^{-9}	9.5 10^{-10}	6.0 10^{-10}	3.7 10^{-10}	3.0 10^{-10}
Hg-193m	11.1 h	0.040	3.6 10^{-9}	0.020	2.4 10^{-9}	1.3 10^{-9}	8.1 10^{-10}	5.0 10^{-10}	4.0 10^{-10}
(inorganic)									
Hg-194	2.60 10^{2} a	1.000	1.3 10^{-7}	1.000	1.2 10^{-7}	8.4 10^{-8}	6.6 10^{-8}	5.5 10^{-8}	5.1 10^{-8}
(organic)		0.800	1.1 10^{-7}	0.400	4.8 10^{-8}	3.5 10^{-8}	2.7 10^{-8}	2.3 10^{-8}	2.1 10^{-8}
Hg-194	2.60 10^{2} a	0.040	7.2 10^{-9}	0.020	3.6 10^{-9}	2.6 10^{-9}	1.9 10^{-9}	1.5 10^{-9}	1.4 10^{-9}
(inorganic)									
Hg-195	9.90 h	1.000	3.0 10^{-10}	1.000	2.0 10^{-10}	1.0 10^{-10}	6.4 10^{-11}	4.2 10^{-11}	3.4 10^{-11}
(organic)		0.800	4.6 10^{-10}	0.400	4.8 10^{-10}	2.5 10^{-10}	1.5 10^{-10}	9.3 10^{-11}	7.5 10^{-11}
Hg-195	9.90 h	0.040	9.5 10^{-10}	0.020	6.3 10^{-10}	3.3 10^{-10}	2.0 10^{-10}	1.2 10^{-10}	9.7 10^{-11}
(inorganic)									
Hg-195m	1.73 d	1.000	2.1 10^{-9}	1.000	1.3 10^{-9}	6.8 10^{-10}	4.2 10^{-10}	2.7 10^{-10}	2.2 10^{-10}
(organic)		0.800	2.6 10^{-9}	0.400	2.8 10^{-9}	1.4 10^{-9}	8.7 10^{-10}	5.1 10^{-10}	4.1 10^{-10}
Hg-195m	1.73 d	0.040	5.8 10^{-9}	0.020	3.8 10^{-9}	2.0 10^{-9}	1.2 10^{-9}	7.0 10^{-10}	5.6 10^{-10}
(inorganic)									
Hg-197	2.67 d	1.000	9.7 10^{-10}	1.000	6.2 10^{-10}	3.1 10^{-10}	1.9 10^{-10}	1.2 10^{-10}	9.9 10^{-11}
(organic)		0.800	1.3 10^{-9}	0.400	1.2 10^{-9}	6.1 10^{-10}	3.7 10^{-10}	2.2 10^{-10}	1.7 10^{-10}
Hg-197	2.67 d	0.040	2.5 10^{-9}	0.020	1.6 10^{-9}	8.3 10^{-10}	5.0 10^{-10}	2.9 10^{-10}	2.3 10^{-10}
(inorganic)									
Hg-197m	23.8 h	1.000	1.5 10^{-9}	1.000	9.5 10^{-10}	4.8 10^{-10}	2.9 10^{-10}	1.8 10^{-10}	1.5 10^{-10}
(organic)		0.800	2.2 10^{-9}	0.400	2.5 10^{-9}	1.2 10^{-9}	7.3 10^{-10}	4.2 10^{-10}	3.4 10^{-10}
Hg-197m	23.8 h	0.040	5.2 10^{-9}	0.020	3.4 10^{-9}	1.7 10^{-9}	1.0 10^{-9}	5.9 10^{-10}	4.7 10^{-10}
(inorganic)									
Hg-199m	0.710 h	1.000	3.4 10^{-10}	1.000	1.9 10^{-10}	9.3 10^{-11}	5.3 10^{-11}	3.6 10^{-11}	2.8 10^{-11}
(organic)		0.800	3.6 10^{-10}	0.400	2.1 10^{-10}	1.0 10^{-10}	5.8 10^{-11}	3.9 10^{-11}	3.1 10^{-11}
Hg-199m	0.710 h	0.040	3.7 10^{-10}	0.020	2.1 10^{-10}	1.0 10^{-10}	5.9 10^{-11}	3.9 10^{-11}	3.1 10^{-11}
(inorganic)									
Hg-203	46.6 d	1.000	1.5 10^{-8}	1.000	1.1 10^{-8}	5.7 10^{-9}	3.6 10^{-9}	2.3 10^{-9}	1.9 10^{-9}
(organic)		0.800	1.3 10^{-8}	0.400	6.4 10^{-9}	3.4 10^{-9}	2.1 10^{-9}	1.3 10^{-9}	1.1 10^{-9}
Hg-203	46.6 d	0.040	5.5 10^{-9}	0.020	3.6 10^{-9}	1.8 10^{-9}	1.1 10^{-9}	6.7 10^{-10}	5.4 10^{-10}
(inorganic)									
Thallium									
Tl-194	0.550 h	1.000	6.1 10^{-11}	1.000	3.9 10^{-11}	2.2 10^{-11}	1.4 10^{-11}	1.0 10^{-11}	8.1 10^{-12}
Tl-194m	0.546 h	1.000	3.8 10^{-10}	1.000	2.2 10^{-10}	1.2 10^{-10}	7.0 10^{-11}	4.9 10^{-11}	4.0 10^{-11}
Tl-195	1.16 h	1.000	2.3 10^{-10}	1.000	1.4 10^{-10}	7.5 10^{-11}	4.7 10^{-11}	3.3 10^{-11}	2.7 10^{-11}
Tl-197	2.84 h	1.000	2.1 10^{-10}	1.000	1.3 10^{-10}	6.7 10^{-11}	4.2 10^{-11}	2.8 10^{-11}	2.3 10^{-11}
Tl-198	5.30 h	1.000	4.7 10^{-10}	1.000	3.3 10^{-10}	1.9 10^{-10}	1.2 10^{-10}	8.7 10^{-11}	7.3 10^{-11}
Tl-198m	1.87 h	1.000	4.8 10^{-10}	1.000	3.0 10^{-10}	1.6 10^{-10}	9.7 10^{-11}	6.7 10^{-11}	5.4 10^{-11}
Tl-199	7.42 h	1.000	2.3 10^{-10}	1.000	1.5 10^{-10}	7.7 10^{-11}	4.8 10^{-11}	3.2 10^{-11}	2.6 10^{-11}
Tl-200	1.09 d	1.000	1.3 10^{-9}	1.000	9.1 10^{-10}	5.3 10^{-10}	3.5 10^{-10}	2.4 10^{-10}	2.0 10^{-10}
Tl-201	3.04 d	1.000	8.4 10^{-10}	1.000	5.5 10^{-10}	2.9 10^{-10}	1.8 10^{-10}	1.2 10^{-10}	9.5 10^{-11}
Tl-202	12.2 d	1.000	2.9 10^{-9}	1.000	2.1 10^{-9}	1.2 10^{-9}	7.9 10^{-10}	5.4 10^{-10}	4.5 10^{-10}
Tl-204	3.78 a	1.000	1.3 10^{-8}	1.000	8.5 10^{-9}	4.2 10^{-9}	2.5 10^{-9}	1.5 10^{-9}	1.2 10^{-9}
Lead [7)]									
Pb-195m	0.263 h	0.600	2.6 10^{-10}	0.200	1.6 10^{-10}	8.4 10^{-11}	5.2 10^{-11}	3.5 10^{-11}	2.9 10^{-11}
Pb-198	2.40 h	0.600	5.9 10^{-10}	0.200	4.8 10^{-10}	2.7 10^{-10}	1.7 10^{-10}	1.1 10^{-10}	1.0 10^{-10}
Pb-199	1.50 h	0.600	3.5 10^{-10}	0.200	2.6 10^{-10}	1.5 10^{-10}	9.4 10^{-11}	6.3 10^{-11}	5.4 10^{-11}
Pb-200	21.5 h	0.600	2.5 10^{-9}	0.200	2.0 10^{-9}	1.1 10^{-9}	7.0 10^{-10}	4.4 10^{-10}	4.0 10^{-10}
Pb-201	9.40 h	0.600	9.4 10^{-10}	0.200	7.8 10^{-10}	4.3 10^{-10}	2.7 10^{-10}	1.8 10^{-10}	1.6 10^{-10}
Pb-202	3.00 10^{5} a	0.600	3.4 10^{-8}	0.200	1.6 10^{-8}	1.3 10^{-8}	1.9 10^{-8}	2.7 10^{-8}	8.8 10^{-9}
Pb-202m	3.62 h	0.600	7.6 10^{-10}	0.200	6.1 10^{-10}	3.5 10^{-10}	2.3 10^{-10}	1.5 10^{-10}	1.3 10^{-10}
Pb-203	2.17 d	0.600	1.6 10^{-9}	0.200	1.3 10^{-9}	6.8 10^{-10}	4.3 10^{-10}	2.7 10^{-10}	2.4 10^{-10}
Pb-205	1.43 10^{7} a	0.600	2.1 10^{-9}	0.200	9.9 10^{-10}	6.2 10^{-10}	6.1 10^{-10}	6.5 10^{-10}	2.8 10^{-10}

7) The value of f_1 for 1 to 15 year olds is 0.4.

TABLE A (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
		f_1 for $g \le 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Pb-209	3.25 h	0.600	5.7 10^{-10}	0.200	3.8 10^{-10}	1.9 10^{-10}	1.1 10^{-10}	6.6 10^{-11}	5.7 10^{-11}
Pb-210	22.3 a	0.600	8.4 10^{-6}	0.200	3.6 10^{-6}	2.2 10^{-6}	1.9 10^{-6}	1.9 10^{-6}	6.9 10^{-7}
Pb-211	0.601 h	0.600	3.1 10^{-9}	0.200	1.4 10^{-9}	7.1 10^{-10}	4.1 10^{-10}	2.7 10^{-10}	1.8 10^{-10}
Pb-212	10.6 h	0.600	1.5 10^{-7}	0.200	6.3 10^{-8}	3.3 10^{-8}	2.0 10^{-8}	1.3 10^{-8}	6.0 10^{-9}
Pb-214	0.447 h	0.600	2.7 10^{-9}	0.200	1.0 10^{-9}	5.2 10^{-10}	3.1 10^{-10}	2.0 10^{-10}	1.4 10^{-10}
Bismuth									
Bi-200	0.606 h	0.100	4.2 10^{-10}	0.050	2.7 10^{-10}	1.5 10^{-10}	9.5 10^{-11}	6.4 10^{-11}	5.1 10^{-11}
Bi-201	1.80 h	0.100	1.0 10^{-9}	0.050	6.7 10^{-10}	3.6 10^{-10}	2.2 10^{-10}	1.4 10^{-10}	1.2 10^{-10}
Bi-202	1.67 h	0.100	6.4 10^{-10}	0.050	4.4 10^{-10}	2.5 10^{-10}	1.6 10^{-10}	1.1 10^{-10}	8.9 10^{-11}
Bi-203	11.8 h	0.100	3.5 10^{-9}	0.050	2.5 10^{-9}	1.4 10^{-9}	9.3 10^{-10}	6.0 10^{-10}	4.8 10^{-10}
Bi-205	15.3 d	0.100	6.1 10^{-9}	0.050	4.5 10^{-9}	2.6 10^{-9}	1.7 10^{-9}	1.1 10^{-9}	9.0 10^{-10}
Bi-206	6.24 d	0.100	1.4 10^{-8}	0.050	1.0 10^{-8}	5.7 10^{-9}	3.7 10^{-9}	2.4 10^{-9}	1.9 10^{-9}
Bi-207	38.0 a	0.100	1.0 10^{-8}	0.050	7.1 10^{-9}	3.9 10^{-9}	2.5 10^{-9}	1.6 10^{-9}	1.3 10^{-9}
Bi-210	5.01 d	0.100	1.5 10^{-8}	0.050	9.7 10^{-9}	4.8 10^{-9}	2.9 10^{-9}	1.6 10^{-9}	1.3 10^{-9}
Bi-210m	3.00 10^{6} a	0.100	2.1 10^{-7}	0.050	9.1 10^{-8}	4.7 10^{-8}	3.0 10^{-8}	1.9 10^{-8}	1.5 10^{-8}
Bi-212	1.01 h	0.100	3.2 10^{-9}	0.050	1.8 10^{-9}	8.7 10^{-10}	5.0 10^{-10}	3.3 10^{-10}	2.6 10^{-10}
Bi-213	0.761 h	0.100	2.5 10^{-9}	0.050	1.4 10^{-9}	6.7 10^{-10}	3.9 10^{-10}	2.5 10^{-10}	2.0 10^{-10}
Bi-214	0.332 h	0.100	1.4 10^{-9}	0.050	7.4 10^{-10}	3.6 10^{-10}	2.1 10^{-10}	1.4 10^{-10}	1.1 10^{-10}
Polonium									
Po-203	0.612 h	1.000	2.9 10^{-10}	0.500	2.4 10^{-10}	1.3 10^{-10}	8.5 10^{-11}	5.8 10^{-11}	4.6 10^{-11}
Po-205	1.80 h	1.000	3.5 10^{-10}	0.500	2.8 10^{-10}	1.6 10^{-10}	1.1 10^{-10}	7.2 10^{-11}	5.8 10^{-11}
Po-207	5.83 h	1.000	4.4 10^{-10}	0.500	5.7 10^{-10}	3.2 10^{-10}	2.1 10^{-10}	1.4 10^{-10}	1.1 10^{-10}
Po-210	138 d	1.000	2.6 10^{-5}	0.500	8.8 10^{-6}	4.4 10^{-6}	2.6 10^{-6}	1.6 10^{-6}	1.2 10^{-6}
Astatine									
At-207	1.80 h	1.000	2.5 10^{-9}	1.000	1.6 10^{-9}	8.0 10^{-10}	4.8 10^{-10}	2.9 10^{-10}	2.4 10^{-10}
At-211	7.21 h	1.000	1.2 10^{-7}	1.000	7.8 10^{-8}	3.8 10^{-8}	2.3 10^{-8}	1.3 10^{-8}	1.1 10^{-8}
Francium									
Fr-222	0.240 h	1.000	6.2 10^{-9}	1.000	3.9 10^{-9}	2.0 10^{-9}	1.3 10^{-9}	8.5 10^{-10}	7.2 10^{-10}
Fr-223	0.363 h	1.000	2.6 10^{-8}	1.000	1.7 10^{-8}	8.3 10^{-9}	5.0 10^{-9}	2.9 10^{-9}	2.4 10^{-9}
Radium [8)]									
Ra-223	11.4 d	0.600	5.3 10^{-6}	0.200	1.1 10^{-6}	5.7 10^{-7}	4.5 10^{-7}	3.7 10^{-7}	1.0 10^{-7}
Ra-224	3.66 d	0.600	2.7 10^{-6}	0.200	6.6 10^{-7}	3.5 10^{-7}	2.6 10^{-7}	2.0 10^{-7}	6.5 10^{-8}
Ra-225	14.8 d	0.600	7.1 10^{-6}	0.200	1.2 10^{-6}	6.1 10^{-7}	5.0 10^{-7}	4.4 10^{-7}	9.9 10^{-8}
Ra-226	1.60 10^{3} a	0.600	4.7 10^{-6}	0.200	9.6 10^{-7}	6.2 10^{-7}	8.0 10^{-7}	1.5 10^{-6}	2.8 10^{-7}
Ra-227	0.703 h	0.600	1.1 10^{-9}	0.200	4.3 10^{-10}	2.5 10^{-10}	1.7 10^{-10}	1.3 10^{-10}	8.1 10^{-11}
Ra-228	5.75 a	0.600	3.0 10^{-5}	0.200	5.7 10^{-6}	3.4 10^{-6}	3.9 10^{-6}	5.3 10^{-6}	6.9 10^{-7}
Actinium									
Ac-224	2.90 h	0.005	1.0 10^{-8}	5.0 10^{-4}	5.2 10^{-9}	2.6 10^{-9}	1.5 10^{-9}	8.8 10^{-10}	7.0 10^{-10}
Ac-225	10.0 d	0.005	4.6 10^{-7}	5.0 10^{-4}	1.8 10^{-7}	9.1 10^{-8}	5.4 10^{-8}	3.0 10^{-8}	2.4 10^{-8}
Ac-226	1.21 d	0.005	1.4 10^{-7}	5.0 10^{-4}	7.6 10^{-8}	3.8 10^{-8}	2.3 10^{-8}	1.3 10^{-8}	1.0 10^{-8}
Ac-227	21.8 a	0.005	3.3 10^{-5}	5.0 10^{-4}	3.1 10^{-6}	2.2 10^{-6}	1.5 10^{-6}	1.2 10^{-6}	1.1 10^{-6}
Ac-228	6.13 h	0.005	7.4 10^{-9}	5.0 10^{-4}	2.8 10^{-9}	1.4 10^{-9}	8.7 10^{-10}	5.3 10^{-10}	4.3 10^{-10}
Thorium									
Th-226	0.515 h	0.005	4.4 10^{-9}	5.0 10^{-4}	2.4 10^{-9}	1.2 10^{-9}	6.7 10^{-10}	4.5 10^{-10}	3.5 10^{-10}
Th-227	18.7 d	0.005	3.0 10^{-7}	5.0 10^{-4}	7.0 10^{-8}	3.6 10^{-8}	2.3 10^{-8}	1.5 10^{-8}	8.8 10^{-9}
Th-228	1.91 a	0.005	3.7 10^{-6}	5.0 10^{-4}	3.7 10^{-7}	2.2 10^{-7}	1.5 10^{-7}	9.4 10^{-8}	7.2 10^{-8}
Th-229	7.34 10^{3} a	0.005	1.1 10^{-5}	5.0 10^{-4}	1.0 10^{-6}	7.8 10^{-7}	6.2 10^{-7}	5.3 10^{-7}	4.9 10^{-7}
Th-230	7.70 10^{4} a	0.005	4.1 10^{-6}	5.0 10^{-4}	4.1 10^{-7}	3.1 10^{-7}	2.4 10^{-7}	2.2 10^{-7}	2.1 10^{-7}
Th-231	1.06 d	0.005	3.9 10^{-9}	5.0 10^{-4}	2.5 10^{-9}	1.2 10^{-9}	7.4 10^{-10}	4.2 10^{-10}	3.4 10^{-10}
Th-232	1.40 10^{10} a	0.005	4.6 10^{-6}	5.0 10^{-4}	4.5 10^{-7}	3.5 10^{-7}	2.9 10^{-7}	2.5 10^{-7}	2.3 10^{-7}
Th-234	24.1 d	0.005	4.0 10^{-8}	5.0 10^{-4}	2.5 10^{-8}	1.3 10^{-8}	7.4 10^{-9}	4.2 10^{-9}	3.4 10^{-9}
Protactinium									
Pa-227	0.638 h	0.005	5.8 10^{-9}	5.0 10^{-4}	3.2 10^{-9}	1.5 10^{-9}	8.7 10^{-10}	5.8 10^{-10}	4.5 10^{-10}
Pa-228	22.0 h	0.005	1.2 10^{-8}	5.0 10^{-4}	4.8 10^{-9}	2.6 10^{-9}	1.6 10^{-9}	9.7 10^{-10}	7.8 10^{-10}
Pa-230	17.4 d	0.005	2.6 10^{-8}	5.0 10^{-4}	5.7 10^{-9}	3.1 10^{-9}	1.9 10^{-9}	1.1 10^{-9}	9.2 10^{-10}
Pa-231	3.27 10^{4} a	0.005	1.3 10^{-5}	5.0 10^{-4}	1.3 10^{-6}	1.1 10^{-6}	9.2 10^{-7}	8.0 10^{-7}	7.1 10^{-7}

[8)] The value of f_1 for 1 to 15 year olds is 0.3.

TABLE A (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
		f_1 for $g \le 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Pa-232	1.31 d	0.005	6.3 10^{-9}	5.0 10^{-4}	4.2 10^{-9}	2.2 10^{-9}	1.4 10^{-9}	8.9 10^{-10}	7.2 10^{-10}
Pa-233	27.0 d	0.005	9.7 10^{-9}	5.0 10^{-4}	6.2 10^{-9}	3.2 10^{-9}	1.9 10^{-9}	1.1 10^{-9}	8.7 10^{-10}
Pa-234	6.70 h	0.005	5.0 10^{-9}	5.0 10^{-4}	3.2 10^{-9}	1.7 10^{-9}	1.0 10^{-9}	6.4 10^{-10}	5.1 10^{-10}
Uranium									
U-230	20.8 d	0.040	7.9 10^{-7}	0.020	3.0 10^{-7}	1.5 10^{-7}	1.0 10^{-7}	6.6 10^{-8}	5.6 10^{-8}
U-231	4.20 d	0.040	3.1 10^{-9}	0.020	2.0 10^{-9}	1.0 10^{-9}	6.1 10^{-10}	3.5 10^{-10}	2.8 10^{-10}
U-232	72.0 a	0.040	2.5 10^{-6}	0.020	8.2 10^{-7}	5.8 10^{-7}	5.7 10^{-7}	6.4 10^{-7}	3.3 10^{-7}
U-233	1.58 10^{5} a	0.040	3.8 10^{-7}	0.020	1.4 10^{-7}	9.2 10^{-8}	7.8 10^{-8}	7.8 10^{-8}	5.1 10^{-8}
U-234	2.44 10^{5} a	0.040	3.7 10^{-7}	0.020	1.3 10^{-7}	8.8 10^{-8}	7.4 10^{-8}	7.4 10^{-8}	4.9 10^{-8}
U-235	7.04 10^{8} a	0.040	3.5 10^{-7}	0.020	1.3 10^{-7}	8.5 10^{-8}	7.1 10^{-8}	7.0 10^{-8}	4.7 10^{-8}
U-236	2.34 10^{7} a	0.040	3.5 10^{-7}	0.020	1.3 10^{-7}	8.4 10^{-8}	7.0 10^{-8}	7.0 10^{-8}	4.7 10^{-8}
U-237	6.75 d	0.040	8.3 10^{-9}	0.020	5.4 10^{-9}	2.8 10^{-9}	1.6 10^{-9}	9.5 10^{-10}	7.6 10^{-10}
U-238	4.47 10^{9} a	0.040	3.4 10^{-7}	0.020	1.2 10^{-7}	8.0 10^{-8}	6.8 10^{-8}	6.7 10^{-8}	4.5 10^{-8}
U-239	0.392 h	0.040	3.4 10^{-10}	0.020	1.9 10^{-10}	9.3 10^{-11}	5.4 10^{-11}	3.5 10^{-11}	2.7 10^{-11}
U-240	14.1 h	0.040	1.3 10^{-8}	0.020	8.1 10^{-9}	4.1 10^{-9}	2.4 10^{-9}	1.4 10^{-9}	1.1 10^{-9}
Neptunium									
Np-232	0.245 h	0.005	8.7 10^{-11}	5.0 10^{-4}	5.1 10^{-11}	2.7 10^{-11}	1.7 10^{-11}	1.2 10^{-11}	9.7 10^{-12}
Np-233	0.603 h	0.005	2.1 10^{-11}	5.0 10^{-4}	1.3 10^{-11}	6.6 10^{-12}	4.0 10^{-12}	2.8 10^{-12}	2.2 10^{-12}
Np-234	4.40 d	0.005	6.2 10^{-9}	5.0 10^{-4}	4.4 10^{-9}	2.4 10^{-9}	1.6 10^{-9}	1.0 10^{-9}	8.1 10^{-10}
Np-235	1.08 a	0.005	7.1 10^{-10}	5.0 10^{-4}	4.1 10^{-10}	2.0 10^{-10}	1.2 10^{-10}	6.8 10^{-11}	5.3 10^{-11}
Np-236	1.15 10^{5} a	0.005	1.9 10^{-7}	5.0 10^{-4}	2.4 10^{-8}	1.8 10^{-8}	1.8 10^{-8}	1.8 10^{-8}	1.7 10^{-8}
Np-236	22.5 h	0.005	2.5 10^{-9}	5.0 10^{-4}	1.3 10^{-9}	6.6 10^{-10}	4.0 10^{-10}	2.4 10^{-10}	1.9 10^{-10}
Np-237	2.14 10^{6} a	0.005	2.0 10^{-6}	5.0 10^{-4}	2.1 10^{-7}	1.4 10^{-7}	1.1 10^{-7}	1.1 10^{-7}	1.1 10^{-7}
Np-238	2.12 d	0.005	9.5 10^{-9}	5.0 10^{-4}	6.2 10^{-9}	3.2 10^{-9}	1.9 10^{-9}	1.1 10^{-9}	9.1 10^{-10}
Np-239	2.36 d	0.005	8.9 10^{-9}	5.0 10^{-4}	5.7 10^{-9}	2.9 10^{-9}	1.7 10^{-9}	1.0 10^{-9}	8.0 10^{-10}
Np-240	1.08 h	0.005	8.7 10^{-10}	5.0 10^{-4}	5.2 10^{-10}	2.6 10^{-10}	1.6 10^{-10}	1.0 10^{-10}	8.2 10^{-11}
Plutonium									
Pu-234	8.80 h	0.005	2.1 10^{-9}	5.0 10^{-4}	1.1 10^{-9}	5.5 10^{-10}	3.3 10^{-10}	2.0 10^{-10}	1.6 10^{-10}
Pu-235	0.422 h	0.005	2.2 10^{-11}	5.0 10^{-4}	1.3 10^{-11}	6.5 10^{-12}	3.9 10^{-12}	2.7 10^{-12}	2.1 10^{-12}
Pu-236	2.85 a	0.005	2.1 10^{-6}	5.0 10^{-4}	2.2 10^{-7}	1.4 10^{-7}	1.0 10^{-7}	8.5 10^{-8}	8.7 10^{-8}
Pu-237	45.3 d	0.005	1.1 10^{-9}	5.0 10^{-4}	6.9 10^{-10}	3.6 10^{-10}	2.2 10^{-10}	1.3 10^{-10}	1.0 10^{-10}
Pu-238	87.7 a	0.005	4.0 10^{-6}	5.0 10^{-4}	4.0 10^{-7}	3.1 10^{-7}	2.4 10^{-7}	2.2 10^{-7}	2.3 10^{-7}
Pu-239	2.41 10^{4} a	0.005	4.2 10^{-6}	5.0 10^{-4}	4.2 10^{-7}	3.3 10^{-7}	2.7 10^{-7}	2.4 10^{-7}	2.5 10^{-7}
Pu-240	6.54 10^{3} a	0.005	4.2 10^{-6}	5.0 10^{-4}	4.2 10^{-7}	3.3 10^{-7}	2.7 10^{-7}	2.4 10^{-7}	2.5 10^{-7}
Pu-241	14.4 a	0.005	5.6 10^{-8}	5.0 10^{-4}	5.7 10^{-9}	5.5 10^{-9}	5.1 10^{-9}	4.8 10^{-9}	4.8 10^{-9}
Pu-242	3.76 10^{5} a	0.005	4.0 10^{-6}	5.0 10^{-4}	4.0 10^{-7}	3.2 10^{-7}	2.6 10^{-7}	2.3 10^{-7}	2.4 10^{-7}
Pu-243	4.95 h	0.005	1.0 10^{-9}	5.0 10^{-4}	6.2 10^{-10}	3.1 10^{-10}	1.8 10^{-10}	1.1 10^{-10}	8.5 10^{-11}
Pu-244	8.26 10^{7} a	0.005	4.0 10^{-6}	5.0 10^{-4}	4.1 10^{-7}	3.2 10^{-7}	2.6 10^{-7}	2.3 10^{-7}	2.4 10^{-7}
Pu-245	10.5 h	0.005	8.0 10^{-9}	5.0 10^{-4}	5.1 10^{-9}	2.6 10^{-9}	1.5 10^{-9}	8.9 10^{-10}	7.2 10^{-10}
Pu-246	10.9 d	0.005	3.6 10^{-8}	5.0 10^{-4}	2.3 10^{-8}	1.2 10^{-8}	7.1 10^{-9}	4.1 10^{-9}	3.3 10^{-9}
Americium									
Am-237	1.22 h	0.005	1.7 10^{-10}	5.0 10^{-4}	1.0 10^{-10}	5.5 10^{-11}	3.3 10^{-11}	2.2 10^{-11}	1.8 10^{-11}
Am-238	1.63 h	0.005	2.5 10^{-10}	5.0 10^{-4}	1.6 10^{-10}	9.1 10^{-11}	5.9 10^{-11}	4.0 10^{-11}	3.2 10^{-11}
Am-239	11.9 h	0.005	2.6 10^{-9}	5.0 10^{-4}	1.7 10^{-9}	8.4 10^{-10}	5.1 10^{-10}	3.0 10^{-10}	2.4 10^{-10}
Am-240	2.12 d	0.005	4.7 10^{-9}	5.0 10^{-4}	3.3 10^{-9}	1.8 10^{-9}	1.2 10^{-9}	7.3 10^{-10}	5.8 10^{-10}
Am-241	4.32 10^{2} a	0.005	3.7 10^{-6}	5.0 10^{-4}	3.7 10^{-7}	2.7 10^{-7}	2.2 10^{-7}	2.0 10^{-7}	2.0 10^{-7}
Am-242	16.0 h	0.005	5.0 10^{-9}	5.0 10^{-4}	2.2 10^{-9}	1.1 10^{-9}	6.4 10^{-10}	3.7 10^{-10}	3.0 10^{-10}
Am-242m	1.52 10^{2} a	0.005	3.1 10^{-6}	5.0 10^{-4}	3.0 10^{-7}	2.3 10^{-7}	2.0 10^{-7}	1.9 10^{-7}	1.9 10^{-7}
Am-243	7.38 10^{3} a	0.005	3.6 10^{-6}	5.0 10^{-4}	3.7 10^{-7}	2.7 10^{-7}	2.2 10^{-7}	2.0 10^{-7}	2.0 10^{-7}
Am-244	10.1 h	0.005	4.9 10^{-9}	5.0 10^{-4}	3.1 10^{-9}	1.6 10^{-9}	9.6 10^{-10}	5.8 10^{-10}	4.6 10^{-10}
Am-244m	0.433 h	0.005	3.7 10^{-10}	5.0 10^{-4}	2.0 10^{-10}	9.6 10^{-11}	5.5 10^{-11}	3.7 10^{-11}	2.9 10^{-11}
Am-245	2.05 h	0.005	6.8 10^{-10}	5.0 10^{-4}	4.5 10^{-10}	2.2 10^{-10}	1.3 10^{-10}	7.9 10^{-11}	6.2 10^{-11}
Am-246	0.650 h	0.005	6.7 10^{-10}	5.0 10^{-4}	3.8 10^{-10}	1.9 10^{-10}	1.1 10^{-10}	7.3 10^{-11}	5.8 10^{-11}
Am-246m	0.417 h	0.005	3.9 10^{-10}	5.0 10^{-4}	2.2 10^{-10}	1.1 10^{-10}	6.4 10^{-11}	4.4 10^{-11}	3.4 10^{-11}
Curium									
Cm-238	2.40 h	0.005	7.8 10^{-10}	5.0 10^{-4}	4.9 10^{-10}	2.6 10^{-10}	1.6 10^{-10}	1.0 10^{-10}	8.0 10^{-11}
Cm-240	27.0 d	0.005	2.2 10^{-7}	5.0 10^{-4}	4.8 10^{-8}	2.5 10^{-8}	1.5 10^{-8}	9.2 10^{-9}	7.6 10^{-9}
Cm-241	32.8 d	0.005	1.1 10^{-8}	5.0 10^{-4}	5.7 10^{-9}	3.0 10^{-9}	1.9 10^{-9}	1.1 10^{-9}	9.1 10^{-10}
Cm-242	163 d	0.005	5.9 10^{-7}	5.0 10^{-4}	7.6 10^{-8}	3.9 10^{-8}	2.4 10^{-8}	1.5 10^{-8}	1.2 10^{-8}
Cm-243	28.5 a	0.005	3.2 10^{-6}	5.0 10^{-4}	3.3 10^{-7}	2.2 10^{-7}	1.6 10^{-7}	1.4 10^{-7}	1.5 10^{-7}
Cm-244	18.1 a	0.005	2.9 10^{-6}	5.0 10^{-4}	2.9 10^{-7}	1.9 10^{-7}	1.4 10^{-7}	1.2 10^{-7}	1.2 10^{-7}
Cm-245	8.50 10^{3} a	0.005	3.7 10^{-6}	5.0 10^{-4}	3.7 10^{-7}	2.8 10^{-7}	2.3 10^{-7}	2.1 10^{-7}	2.1 10^{-7}

TABLE A (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
		f_1 for $g \leq 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Cm-246	4.73 10^{3} a	0.005	3.7 10^{-6}	5.0 10^{-4}	3.7 10^{-7}	2.8 10^{-7}	2.2 10^{-7}	2.1 10^{-7}	2.1 10^{-7}
Cm-247	1.56 10^{7} a	0.005	3.4 10^{-6}	5.0 10^{-4}	3.5 10^{-7}	2.6 10^{-7}	2.1 10^{-7}	1.9 10^{-7}	1.9 10^{-7}
Cm-248	3.39 10^{5} a	0.005	1.4 10^{-5}	5.0 10^{-4}	1.4 10^{-6}	1.0 10^{-6}	8.4 10^{-7}	7.7 10^{-7}	7.7 10^{-7}
Cm-249	1.07 h	0.005	3.9 10^{-10}	5.0 10^{-4}	2.2 10^{-10}	1.1 10^{-10}	6.1 10^{-11}	4.0 10^{-11}	3.1 10^{-11}
Cm-250	6.90 10^{3} a	0.005	7.8 10^{-5}	5.0 10^{-4}	8.2 10^{-6}	6.0 10^{-6}	4.9 10^{-6}	4.4 10^{-6}	4.4 10^{-6}
Berkelium									
Bk-245	4.94 d	0.005	6.1 10^{-9}	5.0 10^{-4}	3.9 10^{-9}	2.0 10^{-9}	1.2 10^{-9}	7.2 10^{-10}	5.7 10^{-10}
Bk-246	1.83 d	0.005	3.7 10^{-9}	5.0 10^{-4}	2.6 10^{-9}	1.4 10^{-9}	9.4 10^{-10}	6.0 10^{-10}	4.8 10^{-10}
Bk-247	1.38 10^{3} a	0.005	8.9 10^{-6}	5.0 10^{-4}	8.6 10^{-7}	6.3 10^{-7}	4.6 10^{-7}	3.8 10^{-7}	3.5 10^{-7}
Bk-249	320 d	0.005	2.2 10^{-8}	5.0 10^{-4}	2.9 10^{-9}	1.9 10^{-9}	1.4 10^{-9}	1.1 10^{-9}	9.7 10^{-10}
Bk-250	3.22 h	0.005	1.5 10^{-9}	5.0 10^{-4}	8.5 10^{-10}	4.4 10^{-10}	2.7 10^{-10}	1.7 10^{-10}	1.4 10^{-10}
Californium									
Cf-244	0.323 h	0.005	9.8 10^{-10}	5.0 10^{-4}	4.8 10^{-10}	2.4 10^{-10}	1.3 10^{-10}	8.9 10^{-11}	7.0 10^{-11}
Cf-246	1.49 d	0.005	5.0 10^{-8}	5.0 10^{-4}	2.4 10^{-8}	1.2 10^{-8}	7.3 10^{-9}	4.1 10^{-9}	3.3 10^{-9}
Cf-248	334 d	0.005	1.5 10^{-6}	5.0 10^{-4}	1.6 10^{-7}	9.9 10^{-8}	6.0 10^{-8}	3.3 10^{-8}	2.8 10^{-8}
Cf-249	3.50 10^{2} a	0.005	9.0 10^{-6}	5.0 10^{-4}	8.7 10^{-7}	6.4 10^{-7}	4.7 10^{-7}	3.8 10^{-7}	3.5 10^{-7}
Cf-250	13.1 a	0.005	5.7 10^{-6}	5.0 10^{-4}	5.5 10^{-7}	3.7 10^{-7}	2.3 10^{-7}	1.7 10^{-7}	1.6 10^{-7}
Cf-251	8.98 10^{2} a	0.005	9.1 10^{-6}	5.0 10^{-4}	8.8 10^{-7}	6.5 10^{-7}	4.7 10^{-7}	3.9 10^{-7}	3.6 10^{-7}
Cf-252	2.64 a	0.005	5.0 10^{-6}	5.0 10^{-4}	5.1 10^{-7}	3.2 10^{-7}	1.9 10^{-7}	1.0 10^{-7}	9.0 10^{-8}
Cf-253	17.8 d	0.005	1.0 10^{-7}	5.0 10^{-4}	1.1 10^{-8}	6.0 10^{-9}	3.7 10^{-9}	1.8 10^{-9}	1.4 10^{-9}
Cf-254	60.5 d	0.005	1.1 10^{-5}	5.0 10^{-4}	2.6 10^{-6}	1.4 10^{-6}	8.4 10^{-7}	5.0 10^{-7}	4.0 10^{-7}
Einsteinium									
Es-250	2.10 h	0.005	2.3 10^{-10}	5.0 10^{-4}	9.9 10^{-11}	5.7 10^{-11}	3.7 10^{-11}	2.6 10^{-11}	2.1 10^{-11}
Es-251	1.38 d	0.005	1.9 10^{-9}	5.0 10^{-4}	1.2 10^{-9}	6.1 10^{-10}	3.7 10^{-10}	2.2 10^{-10}	1.7 10^{-10}
Es-253	20.5 d	0.005	1.7 10^{-7}	5.0 10^{-4}	4.5 10^{-8}	2.3 10^{-8}	1.4 10^{-8}	7.6 10^{-9}	6.1 10^{-9}
Es-254	276 d	0.005	1.4 10^{-6}	5.0 10^{-4}	1.6 10^{-7}	9.8 10^{-8}	6.0 10^{-8}	3.3 10^{-8}	2.8 10^{-8}
Es-254m	1.64 d	0.005	5.7 10^{-8}	5.0 10^{-4}	3.0 10^{-8}	1.5 10^{-8}	9.1 10^{-9}	5.2 10^{-9}	4.2 10^{-9}
Fermium									
Fm-252	22.7 h	0.005	3.8 10^{-8}	5.0 10^{-4}	2.0 10^{-8}	9.9 10^{-9}	5.9 10^{-9}	3.3 10^{-9}	2.7 10^{-9}
Fm-253	3.00 d	0.005	2.5 10^{-8}	5.0 10^{-4}	6.7 10^{-9}	3.4 10^{-9}	2.1 10^{-9}	1.1 10^{-9}	9.1 10^{-10}
Fm-254	3.24 h	0.005	5.6 10^{-9}	5.0 10^{-4}	3.2 10^{-9}	1.6 10^{-9}	9.3 10^{-10}	5.6 10^{-10}	4.4 10^{-10}
Fm-255	20.1 h	0.005	3.3 10^{-8}	5.0 10^{-4}	1.9 10^{-8}	9.5 10^{-9}	5.6 10^{-9}	3.2 10^{-9}	2.5 10^{-9}
Fm-257	101 d	0.005	9.8 10^{-7}	5.0 10^{-4}	1.1 10^{-7}	6.5 10^{-8}	4.0 10^{-8}	1.9 10^{-8}	1.5 10^{-8}
Mendelevium									
Md-257	5.20 h	0.005	3.1 10^{-9}	5.0 10^{-4}	8.8 10^{-10}	4.5 10^{-10}	2.7 10^{-10}	1.5 10^{-10}	1.2 10^{-10}
Md-258	55.0 d	0.005	6.3 10^{-7}	5.0 10^{-4}	8.9 10^{-8}	5.0 10^{-8}	3.0 10^{-8}	1.6 10^{-8}	1.3 10^{-8}

TABLE B

Values of dose conversion factors *h(g)* ($Sv \cdot Bq^{-1}$) for inhaled radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Lung absorp-tion type	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
			f_1 for $g \le 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Hydrogen										
Tritiated water	12.3 a	F [1]	1.000	$2.6\ 10^{-11}$	1.000	$2.0\ 10^{-11}$	$1.1\ 10^{-11}$	$8.2\ 10^{-12}$	$5.9\ 10^{-12}$	$6.2\ 10^{-12}$
		M [2]	0.200	$3.4\ 10^{-10}$	0.100	$2.7\ 10^{-10}$	$1.4\ 10^{-10}$	$8.2\ 10^{-11}$	$5.3\ 10^{-11}$	$4.5\ 10^{-11}$
		S [3]	0.020	$1.2\ 10^{-9}$	0.010	$1.0\ 10^{-9}$	$6.3\ 10^{-10}$	$3.8\ 10^{-10}$	$2.8\ 10^{-10}$	$2.6\ 10^{-10}$
Beryllium										
Be-7	53.3 d	M	0.020	$2.5\ 10^{-10}$	0.005	$2.1\ 10^{-10}$	$1.2\ 10^{-10}$	$8.3\ 10^{-11}$	$6.2\ 10^{-11}$	$5.0\ 10^{-11}$
		S	0.020	$2.8\ 10^{-10}$	0.005	$2.4\ 10^{-10}$	$1.4\ 10^{-10}$	$9.6\ 10^{-11}$	$6.8\ 10^{-11}$	$5.5\ 10^{-11}$
Be-10	$1.60\ 10^{6}$ a	M	0.020	$4.1\ 10^{-8}$	0.005	$3.4\ 10^{-8}$	$2.0\ 10^{-8}$	$1.3\ 10^{-8}$	$1.1\ 10^{-8}$	$9.6\ 10^{-9}$
		S	0.020	$9.9\ 10^{-8}$	0.005	$9.1\ 10^{-8}$	$6.1\ 10^{-8}$	$4.2\ 10^{-8}$	$3.7\ 10^{-8}$	$3.5\ 10^{-8}$
Carbon										
C-11	0.340 h	F	1.000	$1.0\ 10^{-10}$	1.000	$7.0\ 10^{-11}$	$3.2\ 10^{-11}$	$2.1\ 10^{-11}$	$1.3\ 10^{-11}$	$1.1\ 10^{-11}$
		M	0.200	$1.5\ 10^{-10}$	0.100	$1.1\ 10^{-10}$	$4.9\ 10^{-11}$	$3.2\ 10^{-11}$	$2.1\ 10^{-11}$	$1.8\ 10^{-11}$
		S	0.020	$1.6\ 10^{-10}$	0.010	$1.1\ 10^{-10}$	$5.1\ 10^{-11}$	$3.3\ 10^{-11}$	$2.2\ 10^{-11}$	$1.8\ 10^{-11}$
C-14	$5.73\ 10^{3}$ a	F	1.000	$6.1\ 10^{-10}$	1.000	$6.7\ 10^{-10}$	$3.6\ 10^{-10}$	$2.9\ 10^{-10}$	$1.9\ 10^{-10}$	$2.0\ 10^{-10}$
		M	0.200	$8.3\ 10^{-9}$	0.100	$6.6\ 10^{-9}$	$4.0\ 10^{-9}$	$2.8\ 10^{-9}$	$2.5\ 10^{-9}$	$2.0\ 10^{-9}$
		S	0.020	$1.9\ 10^{-8}$	0.010	$1.7\ 10^{-8}$	$1.1\ 10^{-8}$	$7.4\ 10^{-9}$	$6.4\ 10^{-9}$	$5.8\ 10^{-9}$
Fluorine										
F-18	1.83 h	F	1.000	$2.6\ 10^{-10}$	1.000	$1.9\ 10^{-10}$	$9.1\ 10^{-11}$	$5.6\ 10^{-11}$	$3.4\ 10^{-11}$	$2.8\ 10^{-11}$
		M	1.000	$4.1\ 10^{-10}$	1.000	$2.9\ 10^{-10}$	$1.5\ 10^{-10}$	$9.7\ 10^{-11}$	$6.9\ 10^{-11}$	$5.6\ 10^{-11}$
		S	1.000	$4.2\ 10^{-10}$	1.000	$3.1\ 10^{-10}$	$1.5\ 10^{-10}$	$1.0\ 10^{-10}$	$7.3\ 10^{-11}$	$5.9\ 10^{-11}$
Sodium										
Na-22	2.60 a	F	1.000	$9.7\ 10^{-9}$	1.000	$7.3\ 10^{-9}$	$3.8\ 10^{-9}$	$2.4\ 10^{-9}$	$1.5\ 10^{-9}$	$1.3\ 10^{-9}$
Na-24	15.0 h	F	1.000	$2.3\ 10^{-9}$	1.000	$1.8\ 10^{-9}$	$9.3\ 10^{-10}$	$5.7\ 10^{-10}$	$3.4\ 10^{-10}$	$2.7\ 10^{-10}$
Magnesium										
Mg-28	20.9 h	F	1.000	$5.3\ 10^{-9}$	0.500	$4.7\ 10^{-9}$	$2.2\ 10^{-9}$	$1.3\ 10^{-9}$	$7.3\ 10^{-10}$	$6.0\ 10^{-10}$
		M	1.000	$7.3\ 10^{-9}$	0.500	$7.2\ 10^{-9}$	$3.5\ 10^{-9}$	$2.3\ 10^{-9}$	$1.5\ 10^{-9}$	$1.2\ 10^{-9}$
Aluminium										
Al-26	$7.16\ 10^{5}$ a	F	0.020	$8.1\ 10^{-8}$	0.010	$6.2\ 10^{-8}$	$3.2\ 10^{-8}$	$2.0\ 10^{-8}$	$1.3\ 10^{-8}$	$1.1\ 10^{-8}$
		M	0.020	$8.8\ 10^{-8}$	0.010	$7.4\ 10^{-8}$	$4.4\ 10^{-8}$	$2.9\ 10^{-8}$	$2.2\ 10^{-8}$	$2.0\ 10^{-8}$
Silicon										
Si-31	2.62 h	F	0.020	$3.6\ 10^{-10}$	0.010	$2.3\ 10^{-10}$	$9.5\ 10^{-11}$	$5.9\ 10^{-11}$	$3.2\ 10^{-11}$	$2.7\ 10^{-11}$
		M	0.020	$6.9\ 10^{-10}$	0.010	$4.4\ 10^{-10}$	$2.0\ 10^{-10}$	$1.3\ 10^{-10}$	$8.9\ 10^{-11}$	$7.4\ 10^{-11}$
		S	0.020	$7.2\ 10^{-10}$	0.010	$4.7\ 10^{-10}$	$2.2\ 10^{-10}$	$1.4\ 10^{-10}$	$9.5\ 10^{-11}$	$7.9\ 10^{-11}$
Si-32	$4.50\ 10^{2}$ a	F	0.020	$3.0\ 10^{-8}$	0.010	$2.3\ 10^{-8}$	$1.1\ 10^{-8}$	$6.4\ 10^{-9}$	$3.8\ 10^{-9}$	$3.2\ 10^{-9}$
		M	0.020	$7.1\ 10^{-8}$	0.010	$6.0\ 10^{-8}$	$3.6\ 10^{-8}$	$2.4\ 10^{-8}$	$1.9\ 10^{-8}$	$1.7\ 10^{-8}$
		S	0.020	$2.8\ 10^{-7}$	0.010	$2.7\ 10^{-7}$	$1.9\ 10^{-7}$	$1.3\ 10^{-7}$	$1.1\ 10^{-7}$	$1.1\ 10^{-7}$
Phosphorus										
P-32	14.3 d	F	1.000	$1.2\ 10^{-8}$	0.800	$7.5\ 10^{-9}$	$3.2\ 10^{-9}$	$1.8\ 10^{-9}$	$9.8\ 10^{-10}$	$7.7\ 10^{-10}$
		M	1.000	$2.2\ 10^{-8}$	0.800	$1.5\ 10^{-8}$	$8.0\ 10^{-9}$	$5.3\ 10^{-9}$	$4.0\ 10^{-9}$	$3.4\ 10^{-9}$
P-33	25.4 d	F	1.000	$1.2\ 10^{-9}$	0.800	$7.8\ 10^{-10}$	$3.0\ 10^{-10}$	$2.0\ 10^{-10}$	$1.1\ 10^{-10}$	$9.2\ 10^{-11}$
		M	1.000	$6.1\ 10^{-9}$	0.800	$4.6\ 10^{-9}$	$2.8\ 10^{-9}$	$2.1\ 10^{-9}$	$1.9\ 10^{-9}$	$1.5\ 10^{-9}$
Sulphur										
S-35 (inorganic)	87.4 d	F	1.000	$5.5\ 10^{-10}$	0.800	$3.9\ 10^{-10}$	$1.8\ 10^{-10}$	$1.1\ 10^{-10}$	$6.0\ 10^{-11}$	$5.1\ 10^{-11}$
		M	0.200	$5.9\ 10^{-9}$	0.100	$4.5\ 10^{-9}$	$2.8\ 10^{-9}$	$2.0\ 10^{-9}$	$1.8\ 10^{-9}$	$1.4\ 10^{-9}$
		S	0.020	$7.7\ 10^{-9}$	0.010	$6.0\ 10^{-9}$	$3.6\ 10^{-9}$	$2.6\ 10^{-9}$	$2.3\ 10^{-9}$	$1.9\ 10^{-9}$
Chlorine										
Cl-36	$3.01\ 10^{5}$ a	F	1.000	$3.9\ 10^{-9}$	1.000	$2.6\ 10^{-9}$	$1.1\ 10^{-9}$	$7.1\ 10^{-10}$	$3.9\ 10^{-10}$	$3.3\ 10^{-10}$
		M	1.000	$3.1\ 10^{-8}$	1.000	$2.6\ 10^{-8}$	$1.5\ 10^{-8}$	$1.0\ 10^{-8}$	$8.8\ 10^{-9}$	$7.3\ 10^{-9}$
Cl-38	0.620 h	F	1.000	$2.9\ 10^{-10}$	1.000	$1.9\ 10^{-10}$	$8.4\ 10^{-11}$	$5.1\ 10^{-11}$	$3.0\ 10^{-11}$	$2.5\ 10^{-11}$
		M	1.000	$4.7\ 10^{-10}$	1.000	$3.0\ 10^{-10}$	$1.4\ 10^{-10}$	$8.5\ 10^{-11}$	$5.4\ 10^{-11}$	$4.5\ 10^{-11}$
Cl-39	0.927 h	F	1.000	$2.7\ 10^{-10}$	1.000	$1.8\ 10^{-10}$	$8.4\ 10^{-11}$	$5.1\ 10^{-11}$	$3.1\ 10^{-11}$	$2.5\ 10^{-11}$
		M	1.000	$4.3\ 10^{-10}$	1.000	$2.8\ 10^{-10}$	$1.3\ 10^{-10}$	$8.5\ 10^{-11}$	$5.6\ 10^{-11}$	$4.6\ 10^{-11}$

[1] Type F: fast absorption from the lungs.
[2] Type M: moderate absorption from the lungs.
[3] Type S: slow absorption from the lungs.

TABLE B (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for inhaled radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Lung absorp-tion type	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
			f_1 for $g \le 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Potassium										
K-40	1.28 10^{9} a	F	1.000	2.4 10^{-8}	1.000	1.7 10^{-8}	7.5 10^{-9}	4.5 10^{-9}	2.5 10^{-9}	2.1 10^{-9}
K-42	12.4 h	F	1.000	1.6 10^{-9}	1.000	1.0 10^{-9}	4.4 10^{-10}	2.6 10^{-10}	1.5 10^{-10}	1.2 10^{-10}
K-43	22.6 h	F	1.000	1.3 10^{-9}	1.000	9.7 10^{-10}	4.7 10^{-10}	2.9 10^{-10}	1.7 10^{-10}	1.4 10^{-10}
K-44	0.369 h	F	1.000	2.2 10^{-10}	1.000	1.4 10^{-10}	6.5 10^{-11}	4.0 10^{-11}	2.4 10^{-11}	2.0 10^{-11}
K-45	0.333 h	F	1.000	1.5 10^{-10}	1.000	1.0 10^{-10}	4.8 10^{-11}	3.0 10^{-11}	1.8 10^{-11}	1.5 10^{-11}
Calcium [4)]										
Ca-41	1.40 10^{5} a	F	0.600	6.7 10^{-10}	0.300	3.8 10^{-10}	2.6 10^{-10}	3.3 10^{-10}	3.3 10^{-10}	1.7 10^{-10}
		M	0.200	4.2 10^{-10}	0.100	2.6 10^{-10}	1.7 10^{-10}	1.7 10^{-10}	1.6 10^{-10}	9.5 10^{-11}
		S	0.020	6.7 10^{-10}	0.010	6.0 10^{-10}	3.8 10^{-10}	2.4 10^{-10}	1.9 10^{-10}	1.8 10^{-10}
Ca-45	163 d	F	0.600	5.7 10^{-9}	0.300	3.0 10^{-9}	1.4 10^{-9}	1.0 10^{-9}	7.6 10^{-10}	4.6 10^{-10}
		M	0.200	1.2 10^{-8}	0.100	8.8 10^{-9}	5.3 10^{-9}	3.9 10^{-9}	3.5 10^{-9}	2.7 10^{-9}
		S	0.020	1.5 10^{-8}	0.010	1.2 10^{-8}	7.2 10^{-9}	5.1 10^{-9}	4.6 10^{-9}	3.7 10^{-9}
Ca-47	4.53 d	F	0.600	4.9 10^{-9}	0.300	3.6 10^{-9}	1.7 10^{-9}	1.1 10^{-9}	6.1 10^{-10}	5.5 10^{-10}
		M	0.200	1.0 10^{-8}	0.100	7.7 10^{-9}	4.2 10^{-9}	2.9 10^{-9}	2.4 10^{-9}	1.9 10^{-9}
		S	0.020	1.2 10^{-8}	0.010	8.5 10^{-9}	4.6 10^{-9}	3.3 10^{-9}	2.6 10^{-9}	2.1 10^{-9}
Scandium										
Sc-43	3.89 h	S	0.001	9.3 10^{-10}	1.0 10^{-4}	6.7 10^{-10}	3.3 10^{-10}	2.2 10^{-10}	1.4 10^{-10}	1.1 10^{-10}
Sc-44	3.93 h	S	0.001	1.6 10^{-9}	1.0 10^{-4}	1.2 10^{-9}	5.6 10^{-10}	3.6 10^{-10}	2.3 10^{-10}	1.8 10^{-10}
Sc-44m	2.44 d	S	0.001	1.1 10^{-8}	1.0 10^{-4}	8.4 10^{-9}	4.2 10^{-9}	2.8 10^{-9}	1.7 10^{-9}	1.4 10^{-9}
Sc-46	83.8 d	S	0.001	2.8 10^{-8}	1.0 10^{-4}	2.3 10^{-8}	1.4 10^{-8}	9.8 10^{-9}	8.4 10^{-9}	6.8 10^{-9}
Sc-47	3.35 d	S	0.001	4.0 10^{-9}	1.0 10^{-4}	2.8 10^{-9}	1.5 10^{-9}	1.1 10^{-9}	9.2 10^{-10}	7.3 10^{-10}
Sc-48	1.82 d	S	0.001	7.8 10^{-9}	1.0 10^{-4}	5.9 10^{-9}	3.1 10^{-9}	2.0 10^{-9}	1.4 10^{-9}	1.1 10^{-9}
Sc-49	0.956 h	S	0.001	3.9 10^{-10}	1.0 10^{-4}	2.4 10^{-10}	1.1 10^{-10}	7.1 10^{-11}	4.7 10^{-11}	4.0 10^{-11}
Titanium										
Ti-44	47.3 a	F	0.020	3.1 10^{-7}	0.010	2.6 10^{-7}	1.5 10^{-7}	9.6 10^{-8}	6.6 10^{-8}	6.1 10^{-8}
		M	0.020	1.7 10^{-7}	0.010	1.5 10^{-7}	9.2 10^{-8}	5.9 10^{-8}	4.6 10^{-8}	4.2 10^{-8}
		S	0.020	3.2 10^{-7}	0.010	3.1 10^{-7}	2.1 10^{-7}	1.5 10^{-7}	1.3 10^{-7}	1.2 10^{-7}
Ti-45	3.08 h	F	0.020	4.4 10^{-10}	0.010	3.2 10^{-10}	1.5 10^{-10}	9.1 10^{-11}	5.1 10^{-11}	4.2 10^{-11}
		M	0.020	7.4 10^{-10}	0.010	5.2 10^{-10}	2.5 10^{-10}	1.6 10^{-10}	1.1 10^{-10}	8.8 10^{-11}
		S	0.020	7.7 10^{-10}	0.010	5.5 10^{-10}	2.7 10^{-10}	1.7 10^{-10}	1.1 10^{-10}	9.3 10^{-11}
Vanadium										
V-47	0.543 h	F	0.020	1.8 10^{-10}	0.010	1.2 10^{-10}	5.6 10^{-11}	3.5 10^{-11}	2.1 10^{-11}	1.7 10^{-11}
		M	0.020	2.8 10^{-10}	0.010	1.9 10^{-10}	8.6 10^{-11}	5.5 10^{-11}	3.5 10^{-11}	2.9 10^{-11}
V-48	16.2 d	F	0.020	8.4 10^{-9}	0.010	6.4 10^{-9}	3.3 10^{-9}	2.1 10^{-9}	1.3 10^{-9}	1.1 10^{-9}
		M	0.020	1.4 10^{-8}	0.010	1.1 10^{-8}	6.3 10^{-9}	4.3 10^{-9}	2.9 10^{-9}	2.4 10^{-9}
V-49	330 d	F	0.020	2.0 10^{-10}	0.010	1.6 10^{-10}	7.7 10^{-11}	4.3 10^{-11}	2.5 10^{-11}	2.1 10^{-11}
		M	0.020	2.8 10^{-10}	0.010	2.1 10^{-10}	1.1 10^{-10}	6.3 10^{-11}	4.0 10^{-11}	3.4 10^{-11}
Chromium										
Cr-48	23.0 h	F	0.200	7.6 10^{-10}	0.100	6.0 10^{-10}	3.1 10^{-10}	2.0 10^{-10}	1.2 10^{-10}	9.9 10^{-11}
		M	0.200	1.1 10^{-9}	0.100	9.1 10^{-10}	5.1 10^{-10}	3.4 10^{-10}	2.5 10^{-10}	2.0 10^{-10}
		S	0.200	1.2 10^{-9}	0.100	9.8 10^{-10}	5.5 10^{-10}	3.7 10^{-10}	2.8 10^{-10}	2.2 10^{-10}
Cr-49	0.702 h	F	0.200	1.9 10^{-10}	0.100	1.3 10^{-10}	6.0 10^{-11}	3.7 10^{-11}	2.2 10^{-11}	1.9 10^{-11}
		M	0.200	3.0 10^{-10}	0.100	2.0 10^{-10}	9.5 10^{-11}	6.1 10^{-11}	4.0 10^{-11}	3.3 10^{-11}
		S	0.200	3.1 10^{-10}	0.100	2.1 10^{-10}	9.9 10^{-11}	6.4 10^{-11}	4.2 10^{-11}	3.5 10^{-11}
Cr-51	27.7 d	F	0.200	1.7 10^{-10}	0.100	1.3 10^{-10}	6.3 10^{-11}	4.0 10^{-11}	2.4 10^{-11}	2.0 10^{-11}
		M	0.200	2.6 10^{-10}	0.100	1.9 10^{-10}	1.0 10^{-10}	6.4 10^{-11}	3.9 10^{-11}	3.2 10^{-11}
		S	0.200	2.6 10^{-10}	0.100	2.1 10^{-10}	1.0 10^{-10}	6.6 10^{-11}	4.5 10^{-11}	3.7 10^{-11}
Manganese										
Mn-51	0.770 h	F	0.200	2.5 10^{-10}	0.100	1.7 10^{-10}	7.5 10^{-11}	4.6 10^{-11}	2.7 10^{-11}	2.3 10^{-11}
		M	0.200	4.0 10^{-10}	0.100	2.7 10^{-10}	1.2 10^{-10}	7.8 10^{-11}	5.0 10^{-11}	4.1 10^{-11}
Mn-52	5.59 d	F	0.200	7.0 10^{-9}	0.100	5.5 10^{-9}	2.9 10^{-9}	1.8 10^{-9}	1.1 10^{-9}	9.4 10^{-10}
		M	0.200	8.6 10^{-9}	0.100	6.8 10^{-9}	3.7 10^{-9}	2.4 10^{-9}	1.7 10^{-9}	1.4 10^{-9}
Mn-52m	0.352 h	F	0.200	1.9 10^{-10}	0.100	1.3 10^{-10}	6.1 10^{-11}	3.8 10^{-11}	2.2 10^{-11}	1.9 10^{-11}
		M	0.200	2.8 10^{-10}	0.100	1.9 10^{-10}	8.7 10^{-11}	5.5 10^{-11}	3.4 10^{-11}	2.9 10^{-11}
Mn-53	3.70 10^{6} a	F	0.200	3.2 10^{-10}	0.100	2.2 10^{-10}	1.1 10^{-10}	6.0 10^{-11}	3.4 10^{-11}	2.9 10^{-11}
		M	0.200	4.6 10^{-10}	0.100	3.4 10^{-10}	1.7 10^{-10}	1.0 10^{-10}	6.4 10^{-11}	5.4 10^{-11}

4) The value of f_1 for 1 to 15 year olds for type F is 0.4.

TABLE B (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for inhaled radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Lung absorp-tion type	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
			f_1 for $g \le 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Mn-54	312 d	F	0.200	5.2 10^{-9}	0.100	4.1 10^{-9}	2.2 10^{-9}	1.5 10^{-9}	9.9 10^{-10}	8.5 10^{-10}
		M	0.200	7.5 10^{-9}	0.100	6.2 10^{-9}	3.8 10^{-9}	2.4 10^{-9}	1.9 10^{-9}	1.5 10^{-9}
Mn-56	2.58 h	F	0.200	6.9 10^{-10}	0.100	4.9 10^{-10}	2.3 10^{-10}	1.4 10^{-10}	7.8 10^{-11}	6.4 10^{-11}
		M	0.200	1.1 10^{-9}	0.100	7.8 10^{-10}	3.7 10^{-10}	2.4 10^{-10}	1.5 10^{-10}	1.2 10^{-10}
Iron 5)										
Fe-52	8.28 h	F	0.600	5.2 10^{-9}	0.100	3.6 10^{-9}	1.5 10^{-9}	8.9 10^{-10}	4.9 10^{-10}	3.9 10^{-10}
		M	0.200	5.8 10^{-9}	0.100	4.1 10^{-9}	1.9 10^{-9}	1.2 10^{-9}	7.4 10^{-10}	6.0 10^{-10}
		S	0.020	6.0 10^{-9}	0.010	4.2 10^{-9}	2.0 10^{-9}	1.3 10^{-9}	7.7 10^{-10}	6.3 10^{-10}
Fe-55	2.70 a	F	0.600	4.2 10^{-9}	0.100	3.2 10^{-9}	2.2 10^{-9}	1.4 10^{-9}	9.4 10^{-10}	7.7 10^{-10}
		M	0.200	1.9 10^{-9}	0.100	1.4 10^{-9}	9.9 10^{-10}	6.2 10^{-10}	4.4 10^{-10}	3.8 10^{-10}
		S	0.020	1.0 10^{-9}	0.010	8.5 10^{-10}	5.0 10^{-10}	2.9 10^{-10}	2.0 10^{-10}	1.8 10^{-10}
Fe-59	44.5 d	F	0.600	2.1 10^{-8}	0.100	1.3 10^{-8}	7.1 10^{-9}	4.2 10^{-9}	2.6 10^{-9}	2.2 10^{-9}
		M	0.200	1.8 10^{-8}	0.100	1.3 10^{-8}	7.9 10^{-9}	5.5 10^{-9}	4.6 10^{-9}	3.7 10^{-9}
		S	0.020	1.7 10^{-8}	0.010	1.3 10^{-8}	8.1 10^{-9}	5.8 10^{-9}	5.1 10^{-9}	4.0 10^{-9}
Fe-60	1.00 10^{5} a	F	0.600	4.4 10^{-7}	0.100	3.9 10^{-7}	3.5 10^{-7}	3.2 10^{-7}	2.9 10^{-7}	2.8 10^{-7}
		M	0.200	2.0 10^{-7}	0.100	1.7 10^{-7}	1.6 10^{-7}	1.4 10^{-7}	1.4 10^{-7}	1.4 10^{-7}
		S	0.020	9.3 10^{-8}	0.010	8.8 10^{-8}	6.7 10^{-8}	5.2 10^{-8}	4.9 10^{-8}	4.9 10^{-8}
Cobalt 6)										
Co-55	17.5 h	F	0.600	2.2 10^{-9}	0.100	1.8 10^{-9}	9.0 10^{-10}	5.5 10^{-10}	3.1 10^{-10}	2.7 10^{-10}
		M	0.200	4.1 10^{-9}	0.100	3.1 10^{-9}	1.5 10^{-9}	9.8 10^{-10}	6.1 10^{-10}	5.0 10^{-10}
		S	0.020	4.6 10^{-9}	0.010	3.3 10^{-9}	1.6 10^{-9}	1.1 10^{-9}	6.6 10^{-10}	5.3 10^{-10}
Co-56	78.7 d	F	0.600	1.4 10^{-8}	0.100	1.0 10^{-8}	5.5 10^{-9}	3.5 10^{-9}	2.2 10^{-9}	1.8 10^{-9}
		M	0.200	2.5 10^{-8}	0.100	2.1 10^{-8}	1.1 10^{-8}	7.4 10^{-9}	5.8 10^{-9}	4.8 10^{-9}
		S	0.020	2.9 10^{-8}	0.010	2.5 10^{-8}	1.5 10^{-8}	1.0 10^{-8}	8.0 10^{-9}	6.7 10^{-9}
Co-57	271 d	F	0.600	1.5 10^{-9}	0.100	1.1 10^{-9}	5.6 10^{-10}	3.7 10^{-10}	2.3 10^{-10}	1.9 10^{-10}
		M	0.200	2.8 10^{-9}	0.100	2.2 10^{-9}	1.3 10^{-9}	8.5 10^{-10}	6.7 10^{-10}	5.5 10^{-10}
		S	0.020	4.4 10^{-9}	0.010	3.7 10^{-9}	2.3 10^{-9}	1.5 10^{-9}	1.2 10^{-9}	1.0 10^{-9}
Co-58	70.8 d	F	0.600	4.0 10^{-9}	0.100	3.0 10^{-9}	1.6 10^{-9}	1.0 10^{-9}	6.4 10^{-10}	5.3 10^{-10}
		M	0.200	7.3 10^{-9}	0.100	6.5 10^{-9}	3.5 10^{-9}	2.4 10^{-9}	2.0 10^{-9}	1.6 10^{-9}
		S	0.020	9.0 10^{-9}	0.010	7.5 10^{-9}	4.5 10^{-9}	3.1 10^{-9}	2.6 10^{-9}	2.1 10^{-9}
Co-58m	9.15 h	F	0.600	4.8 10^{-11}	0.100	3.6 10^{-11}	1.7 10^{-11}	1.1 10^{-11}	5.9 10^{-12}	5.2 10^{-12}
		M	0.200	1.1 10^{-10}	0.100	7.6 10^{-11}	3.8 10^{-11}	2.4 10^{-11}	1.6 10^{-11}	1.3 10^{-11}
		S	0.020	1.3 10^{-10}	0.010	9.0 10^{-11}	4.5 10^{-11}	3.0 10^{-11}	2.0 10^{-11}	1.7 10^{-11}
Co-60	5.27 a	F	0.600	3.0 10^{-8}	0.100	2.3 10^{-8}	1.4 10^{-8}	8.9 10^{-9}	6.1 10^{-9}	5.2 10^{-9}
		M	0.200	4.2 10^{-8}	0.100	3.4 10^{-8}	2.1 10^{-8}	1.5 10^{-8}	1.2 10^{-8}	1.0 10^{-8}
		S	0.020	9.2 10^{-8}	0.010	8.6 10^{-8}	5.9 10^{-8}	4.0 10^{-8}	3.4 10^{-8}	3.1 10^{-8}
Co-60m	0.174 h	F	0.600	4.4 10^{-12}	0.100	2.8 10^{-12}	1.5 10^{-12}	1.0 10^{-12}	8.3 10^{-13}	6.9 10^{-13}
		M	0.200	7.1 10^{-12}	0.100	4.7 10^{-12}	2.7 10^{-12}	1.8 10^{-12}	1.5 10^{-12}	1.2 10^{-12}
		S	0.020	7.6 10^{-12}	0.010	5.1 10^{-12}	2.9 10^{-12}	2.0 10^{-12}	1.7 10^{-12}	1.4 10^{-12}
Co-61	1.65 h	F	0.600	2.1 10^{-10}	0.100	1.4 10^{-10}	6.0 10^{-11}	3.8 10^{-11}	2.2 10^{-11}	1.9 10^{-11}
		M	0.200	4.0 10^{-10}	0.100	2.7 10^{-10}	1.2 10^{-10}	8.2 10^{-11}	5.7 10^{-11}	4.7 10^{-11}
		S	0.020	4.3 10^{-10}	0.010	2.8 10^{-10}	1.3 10^{-10}	8.8 10^{-11}	6.1 10^{-11}	5.1 10^{-11}
Co-62m	0.232 h	F	0.600	1.4 10^{-10}	0.100	9.5 10^{-11}	4.5 10^{-11}	2.8 10^{-11}	1.7 10^{-11}	1.4 10^{-11}
		M	0.200	1.9 10^{-10}	0.100	1.3 10^{-10}	6.1 10^{-11}	3.8 10^{-11}	2.4 10^{-11}	2.0 10^{-11}
		S	0.020	2.0 10^{-10}	0.010	1.3 10^{-10}	6.3 10^{-11}	4.0 10^{-11}	2.5 10^{-11}	2.1 10^{-11}
Nickel										
Ni-56	6.10 d	F	0.100	3.3 10^{-9}	0.050	2.8 10^{-9}	1.5 10^{-9}	9.3 10^{-10}	5.8 10^{-10}	4.9 10^{-10}
		M	0.100	4.9 10^{-9}	0.050	4.1 10^{-9}	2.3 10^{-9}	1.5 10^{-9}	1.1 10^{-9}	8.7 10^{-10}
		S	0.020	5.5 10^{-9}	0.010	4.6 10^{-9}	2.7 10^{-9}	1.8 10^{-9}	1.3 10^{-9}	1.0 10^{-9}
Ni-57	1.50 d	F	0.100	2.2 10^{-9}	0.050	1.8 10^{-9}	8.9 10^{-10}	5.5 10^{-10}	3.1 10^{-10}	2.5 10^{-10}
		M	0.100	3.6 10^{-9}	0.050	2.8 10^{-9}	1.5 10^{-9}	9.5 10^{-10}	6.2 10^{-10}	5.0 10^{-10}
		S	0.020	3.9 10^{-9}	0.010	3.0 10^{-9}	1.5 10^{-9}	1.0 10^{-9}	6.6 10^{-10}	5.3 10^{-10}
Ni-59	7.50 10^{4} a	F	0.100	9.6 10^{-10}	0.050	8.1 10^{-10}	4.5 10^{-10}	2.8 10^{-10}	1.9 10^{-10}	1.8 10^{-10}
		M	0.100	7.9 10^{-10}	0.050	6.2 10^{-10}	3.4 10^{-10}	2.1 10^{-10}	1.4 10^{-10}	1.3 10^{-10}
		S	0.020	1.7 10^{-9}	0.010	1.5 10^{-9}	9.5 10^{-10}	5.9 10^{-10}	4.6 10^{-10}	4.4 10^{-10}
Ni-63	96.0 a	F	0.100	2.3 10^{-9}	0.050	2.0 10^{-9}	1.1 10^{-9}	6.7 10^{-10}	4.6 10^{-10}	4.4 10^{-10}
		M	0.100	2.5 10^{-9}	0.050	1.9 10^{-9}	1.1 10^{-9}	7.0 10^{-10}	5.3 10^{-10}	4.8 10^{-10}
		S	0.020	4.8 10^{-9}	0.010	4.3 10^{-9}	2.7 10^{-9}	1.7 10^{-9}	1.3 10^{-9}	1.3 10^{-9}
Ni-65	2.52 h	F	0.100	4.4 10^{-10}	0.050	3.0 10^{-10}	1.4 10^{-10}	8.5 10^{-11}	4.9 10^{-11}	4.1 10^{-11}
		M	0.100	7.7 10^{-10}	0.050	5.2 10^{-10}	2.4 10^{-10}	1.6 10^{-10}	1.0 10^{-10}	8.5 10^{-11}
		S	0.020	8.1 10^{-10}	0.010	5.5 10^{-10}	2.6 10^{-10}	1.7 10^{-10}	1.1 10^{-10}	9.0 10^{-11}

5) The value of f_1 for 1 to 15 year olds for type F is 0.2.
6) The value of f_1 for 1 to 15 year olds for type F is 0.3.

TABLE B (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for inhaled radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Lung absorption type	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
			f_1 for $g \le 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Ni-66	2.27 d	F	0.100	$5.7\ 10^{-9}$	0.050	$3.8\ 10^{-9}$	$1.6\ 10^{-9}$	$1.0\ 10^{-9}$	$5.1\ 10^{-10}$	$4.2\ 10^{-10}$
		M	0.100	$1.3\ 10^{-8}$	0.050	$9.4\ 10^{-9}$	$4.5\ 10^{-9}$	$2.9\ 10^{-9}$	$2.0\ 10^{-9}$	$1.6\ 10^{-9}$
		S	0.020	$1.5\ 10^{-8}$	0.010	$1.0\ 10^{-8}$	$5.0\ 10^{-9}$	$3.2\ 10^{-9}$	$2.2\ 10^{-9}$	$1.8\ 10^{-9}$
Copper										
Cu-60	0.387 h	F	1.000	$2.1\ 10^{-10}$	0.500	$1.6\ 10^{-10}$	$7.5\ 10^{-11}$	$4.6\ 10^{-11}$	$2.8\ 10^{-11}$	$2.3\ 10^{-11}$
		M	1.000	$3.0\ 10^{-10}$	0.500	$2.2\ 10^{-10}$	$1.0\ 10^{-10}$	$6.5\ 10^{-11}$	$4.0\ 10^{-11}$	$3.3\ 10^{-11}$
		S	1.000	$3.1\ 10^{-10}$	0.500	$2.2\ 10^{-10}$	$1.1\ 10^{-10}$	$6.7\ 10^{-11}$	$4.2\ 10^{-11}$	$3.4\ 10^{-11}$
Cu-61	3.41 h	F	1.000	$3.1\ 10^{-10}$	0.500	$2.7\ 10^{-10}$	$1.3\ 10^{-10}$	$7.9\ 10^{-11}$	$4.5\ 10^{-11}$	$3.7\ 10^{-11}$
		M	1.000	$4.9\ 10^{-10}$	0.500	$4.4\ 10^{-10}$	$2.1\ 10^{-10}$	$1.4\ 10^{-10}$	$9.1\ 10^{-11}$	$7.4\ 10^{-11}$
		S	1.000	$5.1\ 10^{-10}$	0.500	$4.5\ 10^{-10}$	$2.2\ 10^{-10}$	$1.4\ 10^{-10}$	$9.6\ 10^{-11}$	$7.8\ 10^{-11}$
Cu-64	12.7 h	F	1.000	$2.8\ 10^{-10}$	0.500	$2.7\ 10^{-10}$	$1.2\ 10^{-10}$	$7.6\ 10^{-11}$	$4.2\ 10^{-11}$	$3.5\ 10^{-11}$
		M	1.000	$5.5\ 10^{-10}$	0.500	$5.4\ 10^{-10}$	$2.7\ 10^{-10}$	$1.9\ 10^{-10}$	$1.4\ 10^{-10}$	$1.1\ 10^{-10}$
		S	1.000	$5.8\ 10^{-10}$	0.500	$5.7\ 10^{-10}$	$2.9\ 10^{-10}$	$2.0\ 10^{-10}$	$1.3\ 10^{-10}$	$1.2\ 10^{-10}$
Cu-67	2.58 d	F	1.000	$9.5\ 10^{-10}$	0.500	$8.0\ 10^{-10}$	$3.5\ 10^{-10}$	$2.2\ 10^{-10}$	$1.2\ 10^{-10}$	$1.0\ 10^{-10}$
		M	1.000	$2.3\ 10^{-9}$	0.500	$2.0\ 10^{-9}$	$1.1\ 10^{-9}$	$8.1\ 10^{-10}$	$6.9\ 10^{-10}$	$5.5\ 10^{-10}$
		S	1.000	$2.5\ 10^{-9}$	0.500	$2.1\ 10^{-9}$	$1.2\ 10^{-9}$	$8.9\ 10^{-10}$	$7.7\ 10^{-10}$	$6.1\ 10^{-10}$
Zinc										
Zn-62	9.26 h	F	1.000	$1.7\ 10^{-9}$	0.500	$1.7\ 10^{-9}$	$7.7\ 10^{-10}$	$4.6\ 10^{-10}$	$2.5\ 10^{-10}$	$2.0\ 10^{-10}$
		M	0.200	$4.5\ 10^{-9}$	0.100	$3.5\ 10^{-9}$	$1.6\ 10^{-9}$	$1.0\ 10^{-9}$	$6.0\ 10^{-10}$	$5.0\ 10^{-10}$
		S	0.020	$5.1\ 10^{-9}$	0.010	$3.4\ 10^{-9}$	$1.8\ 10^{-9}$	$1.1\ 10^{-9}$	$6.6\ 10^{-10}$	$5.5\ 10^{-10}$
Zn-63	0.635 h	F	1.000	$2.1\ 10^{-10}$	0.500	$1.4\ 10^{-10}$	$6.5\ 10^{-11}$	$4.0\ 10^{-11}$	$2.4\ 10^{-11}$	$2.0\ 10^{-11}$
		M	0.200	$3.4\ 10^{-10}$	0.100	$2.3\ 10^{-10}$	$1.0\ 10^{-10}$	$6.6\ 10^{-11}$	$4.2\ 10^{-11}$	$3.5\ 10^{-11}$
		S	0.020	$3.6\ 10^{-10}$	0.010	$2.4\ 10^{-10}$	$1.1\ 10^{-10}$	$6.9\ 10^{-11}$	$4.4\ 10^{-11}$	$3.7\ 10^{-11}$
Zn-65	244 d	F	1.000	$1.5\ 10^{-8}$	0.500	$1.0\ 10^{-8}$	$5.7\ 10^{-9}$	$3.8\ 10^{-9}$	$2.5\ 10^{-9}$	$2.2\ 10^{-9}$
		M	0.200	$8.5\ 10^{-9}$	0.100	$6.5\ 10^{-9}$	$3.7\ 10^{-9}$	$2.4\ 10^{-9}$	$1.9\ 10^{-9}$	$1.6\ 10^{-9}$
		S	0.020	$7.6\ 10^{-9}$	0.010	$6.7\ 10^{-9}$	$4.4\ 10^{-9}$	$2.9\ 10^{-9}$	$2.4\ 10^{-9}$	$2.0\ 10^{-9}$
Zn-69	0.950 h	F	1.000	$1.1\ 10^{-10}$	0.500	$7.4\ 10^{-11}$	$3.2\ 10^{-11}$	$2.1\ 10^{-11}$	$1.2\ 10^{-11}$	$1.1\ 10^{-11}$
		M	0.200	$2.2\ 10^{-10}$	0.100	$1.4\ 10^{-10}$	$6.5\ 10^{-11}$	$4.4\ 10^{-11}$	$3.1\ 10^{-11}$	$2.6\ 10^{-11}$
		S	0.020	$2.3\ 10^{-10}$	0.010	$1.5\ 10^{-10}$	$6.9\ 10^{-11}$	$4.7\ 10^{-11}$	$3.4\ 10^{-11}$	$2.8\ 10^{-11}$
Zn-69m	13.8 h	F	1.000	$6.6\ 10^{-10}$	0.500	$6.7\ 10^{-10}$	$3.0\ 10^{-10}$	$1.8\ 10^{-10}$	$9.9\ 10^{-11}$	$8.2\ 10^{-11}$
		M	0.200	$2.1\ 10^{-9}$	0.100	$1.5\ 10^{-9}$	$7.5\ 10^{-10}$	$5.0\ 10^{-10}$	$3.0\ 10^{-10}$	$2.4\ 10^{-10}$
		S	0.020	$2.2\ 10^{-9}$	0.010	$1.7\ 10^{-9}$	$8.2\ 10^{-10}$	$5.4\ 10^{-10}$	$3.3\ 10^{-10}$	$2.7\ 10^{-10}$
Zn-71m	3.92 h	F	1.000	$6.2\ 10^{-10}$	0.500	$5.5\ 10^{-10}$	$2.6\ 10^{-10}$	$1.6\ 10^{-10}$	$9.1\ 10^{-11}$	$7.4\ 10^{-11}$
		M	0.200	$1.3\ 10^{-9}$	0.100	$9.4\ 10^{-10}$	$4.6\ 10^{-10}$	$2.9\ 10^{-10}$	$1.9\ 10^{-10}$	$1.5\ 10^{-10}$
		S	0.020	$1.4\ 10^{-9}$	0.010	$1.0\ 10^{-9}$	$4.9\ 10^{-10}$	$3.1\ 10^{-10}$	$2.0\ 10^{-10}$	$1.6\ 10^{-10}$
Zn-72	1.94 d	F	1.000	$4.3\ 10^{-9}$	0.500	$3.5\ 10^{-9}$	$1.7\ 10^{-9}$	$1.0\ 10^{-9}$	$5.9\ 10^{-10}$	$4.9\ 10^{-10}$
		M	0.200	$8.8\ 10^{-9}$	0.100	$6.5\ 10^{-9}$	$3.4\ 10^{-9}$	$2.3\ 10^{-9}$	$1.5\ 10^{-9}$	$1.2\ 10^{-9}$
		S	0.020	$9.7\ 10^{-9}$	0.010	$7.0\ 10^{-9}$	$3.6\ 10^{-9}$	$2.4\ 10^{-9}$	$1.6\ 10^{-9}$	$1.3\ 10^{-9}$
Gallium										
Ga-65	0.253 h	F	0.010	$1.1\ 10^{-10}$	0.001	$7.3\ 10^{-11}$	$3.4\ 10^{-11}$	$2.1\ 10^{-11}$	$1.3\ 10^{-11}$	$1.1\ 10^{-11}$
		M	0.010	$1.6\ 10^{-10}$	0.001	$1.1\ 10^{-10}$	$4.8\ 10^{-11}$	$3.1\ 10^{-11}$	$2.0\ 10^{-11}$	$1.7\ 10^{-11}$
Ga-66	9.40 h	F	0.010	$2.8\ 10^{-9}$	0.001	$2.0\ 10^{-9}$	$9.2\ 10^{-10}$	$5.7\ 10^{-10}$	$3.0\ 10^{-10}$	$2.5\ 10^{-10}$
		M	0.010	$4.5\ 10^{-9}$	0.001	$3.1\ 10^{-9}$	$1.5\ 10^{-9}$	$9.2\ 10^{-10}$	$5.3\ 10^{-10}$	$4.4\ 10^{-10}$
Ga-67	3.26 d	F	0.010	$6.4\ 10^{-10}$	0.001	$4.6\ 10^{-10}$	$2.2\ 10^{-10}$	$1.4\ 10^{-10}$	$7.7\ 10^{-11}$	$6.4\ 10^{-11}$
		M	0.010	$1.4\ 10^{-9}$	0.001	$1.0\ 10^{-9}$	$5.0\ 10^{-10}$	$3.6\ 10^{-10}$	$3.0\ 10^{-10}$	$2.4\ 10^{-10}$
Ga-68	1.13 h	F	0.010	$2.9\ 10^{-10}$	0.001	$1.9\ 10^{-10}$	$8.8\ 10^{-11}$	$5.4\ 10^{-11}$	$3.1\ 10^{-11}$	$2.6\ 10^{-11}$
		M	0.010	$4.6\ 10^{-10}$	0.001	$3.1\ 10^{-10}$	$1.4\ 10^{-10}$	$9.2\ 10^{-11}$	$5.9\ 10^{-11}$	$4.9\ 10^{-11}$
Ga-70	0.353 h	F	0.010	$9.5\ 10^{-11}$	0.001	$6.0\ 10^{-11}$	$2.6\ 10^{-11}$	$1.6\ 10^{-11}$	$1.0\ 10^{-11}$	$8.8\ 10^{-12}$
		M	0.010	$1.5\ 10^{-10}$	0.001	$9.6\ 10^{-11}$	$4.3\ 10^{-11}$	$2.8\ 10^{-11}$	$1.8\ 10^{-11}$	$1.6\ 10^{-11}$
Ga-72	14.1 h	F	0.010	$2.9\ 10^{-9}$	0.001	$2.2\ 10^{-9}$	$1.0\ 10^{-9}$	$6.4\ 10^{-10}$	$3.6\ 10^{-10}$	$2.9\ 10^{-10}$
		M	0.010	$4.5\ 10^{-9}$	0.001	$3.3\ 10^{-9}$	$1.6\ 10^{-9}$	$1.0\ 10^{-9}$	$6.5\ 10^{-10}$	$5.3\ 10^{-10}$
Ga-73	4.91 h	F	0.010	$6.7\ 10^{-10}$	0.001	$4.5\ 10^{-10}$	$2.0\ 10^{-10}$	$1.2\ 10^{-10}$	$6.4\ 10^{-11}$	$5.4\ 10^{-11}$
		M	0.010	$1.2\ 10^{-9}$	0.001	$8.4\ 10^{-10}$	$4.0\ 10^{-10}$	$2.6\ 10^{-10}$	$1.7\ 10^{-10}$	$1.4\ 10^{-10}$
Germanium										
Ge-66	2.27 h	F	1.000	$4.5\ 10^{-10}$	1.000	$3.5\ 10^{-10}$	$1.8\ 10^{-10}$	$1.1\ 10^{-10}$	$6.7\ 10^{-11}$	$5.4\ 10^{-11}$
		M	1.000	$6.4\ 10^{-10}$	1.000	$4.8\ 10^{-10}$	$2.5\ 10^{-10}$	$1.6\ 10^{-10}$	$1.1\ 10^{-10}$	$9.1\ 10^{-11}$
Ge-67	0.312 h	F	1.000	$1.7\ 10^{-10}$	1.000	$1.1\ 10^{-10}$	$4.9\ 10^{-11}$	$3.1\ 10^{-11}$	$1.8\ 10^{-11}$	$1.5\ 10^{-11}$
		M	1.000	$2.5\ 10^{-10}$	1.000	$1.6\ 10^{-10}$	$7.3\ 10^{-11}$	$4.6\ 10^{-11}$	$2.9\ 10^{-11}$	$2.5\ 10^{-11}$
Ge-68	288 d	F	1.000	$5.4\ 10^{-9}$	1.000	$3.8\ 10^{-9}$	$1.8\ 10^{-9}$	$1.1\ 10^{-9}$	$6.3\ 10^{-10}$	$5.2\ 10^{-10}$
		M	1.000	$6.0\ 10^{-8}$	1.000	$5.0\ 10^{-8}$	$3.0\ 10^{-8}$	$2.0\ 10^{-8}$	$1.6\ 10^{-8}$	$1.4\ 10^{-8}$
Ge-69	1.63 d	F	1.000	$1.2\ 10^{-9}$	1.000	$9.0\ 10^{-10}$	$4.6\ 10^{-10}$	$2.8\ 10^{-10}$	$1.7\ 10^{-10}$	$1.3\ 10^{-10}$
		M	1.000	$1.8\ 10^{-9}$	1.000	$1.4\ 10^{-9}$	$7.4\ 10^{-10}$	$4.9\ 10^{-10}$	$3.6\ 10^{-10}$	$2.9\ 10^{-10}$

TABLE B (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for inhaled radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Lung absorp-tion type	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
			f_1 for $g \leq 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Ge-71	11.8 d	F	1.000	6.0 10^{-11}	1.000	4.3 10^{-11}	2.0 10^{-11}	1.1 10^{-11}	6.1 10^{-12}	4.8 10^{-12}
		M	1.000	1.2 10^{-10}	1.000	8.6 10^{-11}	4.1 10^{-11}	2.4 10^{-11}	1.3 10^{-11}	1.1 10^{-11}
Ge-75	1.38 h	F	1.000	1.6 10^{-10}	1.000	1.0 10^{-10}	4.3 10^{-11}	2.8 10^{-11}	1.7 10^{-11}	1.5 10^{-11}
		M	1.000	2.9 10^{-10}	1.000	1.9 10^{-10}	8.9 10^{-11}	6.1 10^{-11}	4.4 10^{-11}	3.6 10^{-11}
Ge-77	11.3 h	F	1.000	1.3 10^{-9}	1.000	9.5 10^{-10}	4.7 10^{-10}	2.9 10^{-10}	1.7 10^{-10}	1.4 10^{-10}
		M	1.000	2.3 10^{-9}	1.000	1.7 10^{-9}	8.8 10^{-10}	6.0 10^{-10}	4.5 10^{-10}	3.7 10^{-10}
Ge-78	1.45 h	F	1.000	4.3 10^{-10}	1.000	2.9 10^{-10}	1.4 10^{-10}	8.9 10^{-11}	5.5 10^{-11}	4.5 10^{-11}
		M	1.000	7.3 10^{-10}	1.000	5.0 10^{-10}	2.5 10^{-10}	1.6 10^{-10}	1.2 10^{-10}	9.5 10^{-11}
Arsenic										
As-69	0.253 h	M	1.000	2.1 10^{-10}	0.500	1.4 10^{-10}	6.3 10^{-11}	4.0 10^{-11}	2.5 10^{-11}	2.1 10^{-11}
As-70	0.876 h	M	1.000	5.7 10^{-10}	0.500	4.3 10^{-10}	2.1 10^{-10}	1.3 10^{-10}	8.3 10^{-11}	6.7 10^{-11}
As-71	2.70 d	M	1.000	2.2 10^{-9}	0.500	1.9 10^{-9}	1.0 10^{-9}	6.8 10^{-10}	5.0 10^{-10}	4.0 10^{-10}
As-72	1.08 d	M	1.000	5.9 10^{-9}	0.500	5.7 10^{-9}	2.7 10^{-9}	1.7 10^{-9}	1.1 10^{-9}	9.0 10^{-10}
As-73	80.3 d	M	1.000	5.4 10^{-9}	0.500	4.0 10^{-9}	2.3 10^{-9}	1.5 10^{-9}	1.2 10^{-9}	1.0 10^{-9}
As-74	17.8 d	M	1.000	1.1 10^{-8}	0.500	8.4 10^{-9}	4.7 10^{-9}	3.3 10^{-9}	2.6 10^{-9}	2.1 10^{-9}
As-76	1.10 d	M	1.000	5.1 10^{-9}	0.500	4.6 10^{-9}	2.2 10^{-9}	1.4 10^{-9}	8.8 10^{-10}	7.4 10^{-10}
As-77	1.62 d	M	1.000	2.2 10^{-9}	0.500	1.7 10^{-9}	8.9 10^{-10}	6.2 10^{-10}	5.0 10^{-10}	3.9 10^{-10}
As-78	1.51 h	M	1.000	8.0 10^{-10}	0.500	5.8 10^{-10}	2.7 10^{-10}	1.7 10^{-10}	1.1 10^{-10}	8.9 10^{-11}
Selenium										
Se-70	0.683 h	F	1.000	3.9 10^{-10}	0.800	3.0 10^{-10}	1.5 10^{-10}	9.0 10^{-11}	5.1 10^{-11}	4.2 10^{-11}
		M	0.200	6.5 10^{-10}	0.100	4.7 10^{-10}	2.3 10^{-10}	1.4 10^{-10}	8.9 10^{-11}	7.3 10^{-11}
		S	0.020	6.8 10^{-10}	0.010	4.8 10^{-10}	2.3 10^{-10}	1.5 10^{-10}	9.4 10^{-11}	7.6 10^{-11}
Se-73	7.15 h	F	1.000	7.7 10^{-10}	0.800	6.5 10^{-10}	3.3 10^{-10}	2.1 10^{-10}	1.0 10^{-10}	8.0 10^{-11}
		M	0.200	1.6 10^{-9}	0.100	1.2 10^{-9}	5.9 10^{-10}	3.8 10^{-10}	2.4 10^{-10}	1.9 10^{-10}
		S	0.020	1.8 10^{-9}	0.010	1.3 10^{-9}	6.3 10^{-10}	4.0 10^{-10}	2.6 10^{-10}	2.1 10^{-10}
Se-73m	0.650 h	F	1.000	9.3 10^{-11}	0.800	7.2 10^{-11}	3.5 10^{-11}	2.3 10^{-11}	1.1 10^{-11}	9.2 10^{-12}
		M	0.200	1.8 10^{-10}	0.100	1.3 10^{-10}	6.1 10^{-11}	3.9 10^{-11}	2.5 10^{-11}	2.0 10^{-11}
		S	0.020	1.9 10^{-10}	0.010	1.3 10^{-10}	6.5 10^{-11}	4.1 10^{-11}	2.6 10^{-11}	2.2 10^{-11}
Se-75	120 d	F	1.000	7.8 10^{-9}	0.800	6.0 10^{-9}	3.4 10^{-9}	2.5 10^{-9}	1.2 10^{-9}	1.0 10^{-9}
		M	0.200	5.4 10^{-9}	0.100	4.5 10^{-9}	2.5 10^{-9}	1.7 10^{-9}	1.3 10^{-9}	1.1 10^{-9}
		S	0.020	5.6 10^{-9}	0.010	4.7 10^{-9}	2.9 10^{-9}	2.0 10^{-9}	1.6 10^{-9}	1.3 10^{-9}
Se-79	6.50 10^{4} a	F	1.000	1.6 10^{-8}	0.800	1.3 10^{-8}	7.7 10^{-9}	5.6 10^{-9}	1.5 10^{-9}	1.1 10^{-9}
		M	0.200	1.4 10^{-8}	0.100	1.1 10^{-8}	6.9 10^{-9}	4.9 10^{-9}	3.3 10^{-9}	2.6 10^{-9}
		S	0.020	2.3 10^{-8}	0.010	2.0 10^{-8}	1.3 10^{-8}	8.7 10^{-9}	7.6 10^{-9}	6.8 10^{-9}
Se-81	0.308 h	F	1.000	8.6 10^{-11}	0.800	5.4 10^{-11}	2.3 10^{-11}	1.5 10^{-11}	9.2 10^{-12}	8.0 10^{-12}
		M	0.200	1.3 10^{-10}	0.100	8.5 10^{-11}	3.8 10^{-11}	2.5 10^{-11}	1.6 10^{-11}	1.4 10^{-11}
		S	0.020	1.4 10^{-10}	0.010	8.9 10^{-11}	3.9 10^{-11}	2.6 10^{-11}	1.7 10^{-11}	1.5 10^{-11}
Se-81m	0.954 h	F	1.000	1.8 10^{-10}	0.800	1.2 10^{-10}	5.4 10^{-11}	3.4 10^{-11}	1.9 10^{-11}	1.6 10^{-11}
		M	0.200	3.8 10^{-10}	0.100	2.5 10^{-10}	1.2 10^{-10}	8.0 10^{-11}	5.8 10^{-11}	4.7 10^{-11}
		S	0.020	4.1 10^{-10}	0.010	2.7 10^{-10}	1.3 10^{-10}	8.5 10^{-11}	6.2 10^{-11}	5.1 10^{-11}
Se-83	0.375 h	F	1.000	1.7 10^{-10}	0.800	1.2 10^{-10}	5.8 10^{-11}	3.6 10^{-11}	2.1 10^{-11}	1.8 10^{-11}
		M	0.200	2.7 10^{-10}	0.100	1.9 10^{-10}	9.2 10^{-11}	5.9 10^{-11}	3.9 10^{-11}	3.2 10^{-11}
		S	0.020	2.8 10^{-10}	0.010	2.0 10^{-10}	9.6 10^{-11}	6.2 10^{-11}	4.1 10^{-11}	3.4 10^{-11}
Bromine										
Br-74	0.422 h	F	1.000	2.5 10^{-10}	1.000	1.8 10^{-10}	8.6 10^{-11}	5.3 10^{-11}	3.2 10^{-11}	2.6 10^{-11}
		M	1.000	3.6 10^{-10}	1.000	2.5 10^{-10}	1.2 10^{-10}	7.5 10^{-11}	4.6 10^{-11}	3.8 10^{-11}
Br-74m	0.691 h	F	1.000	4.0 10^{-10}	1.000	2.8 10^{-10}	1.3 10^{-10}	8.1 10^{-11}	4.8 10^{-11}	3.9 10^{-11}
		M	1.000	5.9 10^{-10}	1.000	4.1 10^{-10}	1.9 10^{-10}	1.2 10^{-10}	7.5 10^{-11}	6.2 10^{-11}
Br-75	1.63 h	F	1.000	2.9 10^{-10}	1.000	2.1 10^{-10}	9.7 10^{-11}	5.9 10^{-11}	3.5 10^{-11}	2.9 10^{-11}
		M	1.000	4.5 10^{-10}	1.000	3.1 10^{-10}	1.5 10^{-10}	9.7 10^{-11}	6.5 10^{-11}	5.3 10^{-11}
Br-76	16.2 h	F	1.000	2.2 10^{-9}	1.000	1.7 10^{-9}	8.4 10^{-10}	5.1 10^{-10}	3.0 10^{-10}	2.4 10^{-10}
		M	1.000	3.0 10^{-9}	1.000	2.3 10^{-9}	1.2 10^{-9}	7.5 10^{-10}	5.0 10^{-10}	4.1 10^{-10}
Br-77	2.33 d	F	1.000	5.3 10^{-10}	1.000	4.4 10^{-10}	2.2 10^{-10}	1.3 10^{-10}	7.7 10^{-11}	6.2 10^{-11}
		M	1.000	6.3 10^{-10}	1.000	5.1 10^{-10}	2.7 10^{-10}	1.6 10^{-10}	1.1 10^{-10}	8.4 10^{-11}
Br-80	0.290 h	F	1.000	7.1 10^{-11}	1.000	4.4 10^{-11}	1.8 10^{-11}	1.2 10^{-11}	6.9 10^{-12}	5.9 10^{-12}
		M	1.000	1.1 10^{-10}	1.000	6.5 10^{-11}	2.8 10^{-11}	1.8 10^{-11}	1.1 10^{-11}	9.4 10^{-12}
Br-80m	4.42 h	F	1.000	4.3 10^{-10}	1.000	2.8 10^{-10}	1.2 10^{-10}	7.2 10^{-11}	4.0 10^{-11}	3.3 10^{-11}
		M	1.000	6.8 10^{-10}	1.000	4.5 10^{-10}	2.1 10^{-10}	1.4 10^{-10}	9.3 10^{-11}	7.6 10^{-11}
Br-82	1.47 d	F	1.000	2.7 10^{-9}	1.000	2.2 10^{-9}	1.2 10^{-9}	7.0 10^{-10}	4.2 10^{-10}	3.5 10^{-10}
		M	1.000	3.8 10^{-9}	1.000	3.0 10^{-9}	1.7 10^{-9}	1.1 10^{-9}	7.9 10^{-10}	6.3 10^{-10}

TABLE B (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for inhaled radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Lung absorption type	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
			f_1 for $g \le 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Br-83	2.39 h	F	1.000	1.7 10^{-10}	1.000	1.1 10^{-10}	4.7 10^{-11}	3.0 10^{-11}	1.8 10^{-11}	1.6 10^{-11}
		M	1.000	3.5 10^{-10}	1.000	2.3 10^{-10}	1.1 10^{-10}	7.7 10^{-11}	5.9 10^{-11}	4.8 10^{-11}
Br-84	0.530 h	F	1.000	2.4 10^{-10}	1.000	1.6 10^{-10}	7.1 10^{-11}	4.4 10^{-11}	2.6 10^{-11}	2.2 10^{-11}
		M	1.000	3.7 10^{-10}	1.000	2.4 10^{-10}	1.1 10^{-10}	6.9 10^{-11}	4.4 10^{-11}	3.7 10^{-11}
Rubidium										
Rb-79	0.382 h	F	1.000	1.6 10^{-10}	1.000	1.1 10^{-10}	5.0 10^{-11}	3.2 10^{-11}	1.9 10^{-11}	1.6 10^{-11}
Rb-81	4.58 h	F	1.000	3.2 10^{-10}	1.000	2.5 10^{-10}	1.2 10^{-10}	7.1 10^{-11}	4.2 10^{-11}	3.4 10^{-11}
Rb-81m	0.533 h	F	1.000	6.2 10^{-11}	1.000	4.6 10^{-11}	2.2 10^{-11}	1.4 10^{-11}	8.5 10^{-12}	7.0 10^{-12}
Rb-82m	6.20 h	F	1.000	8.6 10^{-10}	1.000	7.3 10^{-10}	3.9 10^{-10}	2.3 10^{-10}	1.4 10^{-10}	1.1 10^{-10}
Rb-83	86.2 d	F	1.000	4.9 10^{-9}	1.000	3.8 10^{-9}	2.0 10^{-9}	1.3 10^{-9}	7.9 10^{-10}	6.9 10^{-10}
Rb-84	32.8 d	F	1.000	8.6 10^{-9}	1.000	6.4 10^{-9}	3.1 10^{-9}	2.0 10^{-9}	1.2 10^{-9}	1.0 10^{-9}
Rb-86	18.7 d	F	1.000	1.2 10^{-8}	1.000	7.7 10^{-9}	3.4 10^{-9}	2.0 10^{-9}	1.1 10^{-9}	9.3 10^{-10}
Rb-87	4.70 10^{10} a	F	1.000	6.0 10^{-9}	1.000	4.1 10^{-9}	1.8 10^{-9}	1.1 10^{-9}	6.0 10^{-10}	5.0 10^{-10}
Rb-88	0.297 h	F	1.000	1.9 10^{-10}	1.000	1.2 10^{-10}	5.2 10^{-11}	3.2 10^{-11}	1.9 10^{-11}	1.6 10^{-11}
Rb-89	0.253 h	F	1.000	1.4 10^{-10}	1.000	9.3 10^{-11}	4.3 10^{-11}	2.7 10^{-11}	1.6 10^{-11}	1.4 10^{-11}
Strontium [7)]										
Sr-80	1.67 h	F	0.600	7.8 10^{-10}	0.300	5.4 10^{-10}	2.4 10^{-10}	1.4 10^{-10}	7.9 10^{-11}	7.1 10^{-11}
		M	0.200	1.4 10^{-9}	0.100	9.0 10^{-10}	4.1 10^{-10}	2.5 10^{-10}	1.5 10^{-10}	1.3 10^{-10}
		S	0.020	1.5 10^{-9}	0.010	9.4 10^{-10}	4.3 10^{-10}	2.7 10^{-10}	1.6 10^{-10}	1.4 10^{-10}
Sr-81	0.425 h	F	0.600	2.1 10^{-10}	0.300	1.5 10^{-10}	6.7 10^{-11}	4.1 10^{-11}	2.4 10^{-11}	2.1 10^{-11}
		M	0.200	3.3 10^{-10}	0.100	2.2 10^{-10}	1.0 10^{-10}	6.6 10^{-11}	4.2 10^{-11}	3.5 10^{-11}
		S	0.020	3.4 10^{-10}	0.010	2.3 10^{-10}	1.1 10^{-10}	6.9 10^{-11}	4.4 10^{-11}	3.7 10^{-11}
Sr-82	25.0 d	F	0.600	2.8 10^{-8}	0.300	1.5 10^{-8}	6.6 10^{-9}	4.6 10^{-9}	3.2 10^{-9}	2.1 10^{-9}
		M	0.200	5.5 10^{-8}	0.100	4.0 10^{-8}	2.1 10^{-8}	1.4 10^{-8}	1.0 10^{-8}	8.9 10^{-9}
		S	0.020	6.1 10^{-8}	0.010	4.6 10^{-8}	2.5 10^{-8}	1.7 10^{-8}	1.2 10^{-8}	1.1 10^{-8}
Sr-83	1.35 d	F	0.600	1.4 10^{-9}	0.300	1.1 10^{-9}	5.5 10^{-10}	3.4 10^{-10}	2.0 10^{-10}	1.6 10^{-10}
		M	0.200	2.5 10^{-9}	0.100	1.9 10^{-9}	9.5 10^{-10}	6.0 10^{-10}	3.9 10^{-10}	3.1 10^{-10}
		S	0.020	2.8 10^{-9}	0.010	2.0 10^{-9}	1.0 10^{-9}	6.5 10^{-10}	4.2 10^{-10}	3.4 10^{-10}
Sr-85	64.8 d	F	0.600	4.4 10^{-9}	0.300	2.3 10^{-9}	1.1 10^{-9}	9.6 10^{-10}	8.3 10^{-10}	3.8 10^{-10}
		M	0.200	4.3 10^{-9}	0.100	3.1 10^{-9}	1.8 10^{-9}	1.2 10^{-9}	8.8 10^{-10}	6.4 10^{-10}
		S	0.020	4.4 10^{-9}	0.010	3.7 10^{-9}	2.2 10^{-9}	1.3 10^{-9}	1.0 10^{-9}	8.1 10^{-10}
Sr-85m	1.16 h	F	0.600	2.4 10^{-11}	0.300	1.9 10^{-11}	9.6 10^{-12}	6.0 10^{-12}	3.7 10^{-12}	2.9 10^{-12}
		M	0.200	3.1 10^{-11}	0.100	2.5 10^{-11}	1.3 10^{-11}	8.0 10^{-12}	5.1 10^{-12}	4.1 10^{-12}
		S	0.020	3.2 10^{-11}	0.010	2.6 10^{-11}	1.3 10^{-11}	8.3 10^{-12}	5.4 10^{-12}	4.3 10^{-12}
Sr-87m	2.80 h	F	0.600	9.7 10^{-11}	0.300	7.8 10^{-11}	3.8 10^{-11}	2.3 10^{-11}	1.3 10^{-11}	1.1 10^{-11}
		M	0.200	1.6 10^{-10}	0.100	1.2 10^{-10}	5.9 10^{-11}	3.8 10^{-11}	2.5 10^{-11}	2.0 10^{-11}
		S	0.020	1.7 10^{-10}	0.010	1.2 10^{-10}	6.2 10^{-11}	4.0 10^{-11}	2.6 10^{-11}	2.1 10^{-11}
Sr-89	50.5 d	F	0.600	1.5 10^{-8}	0.300	7.3 10^{-9}	3.2 10^{-9}	2.3 10^{-9}	1.7 10^{-9}	1.0 10^{-9}
		M	0.200	3.3 10^{-8}	0.100	2.4 10^{-8}	1.3 10^{-8}	9.1 10^{-9}	7.3 10^{-9}	6.1 10^{-9}
		S	0.020	3.9 10^{-8}	0.010	3.0 10^{-8}	1.7 10^{-8}	1.2 10^{-8}	9.3 10^{-9}	7.9 10^{-9}
Sr-90	29.1 a	F	0.600	1.3 10^{-7}	0.300	5.2 10^{-8}	3.1 10^{-8}	4.1 10^{-8}	5.3 10^{-8}	2.4 10^{-8}
		M	0.200	1.5 10^{-7}	0.100	1.1 10^{-7}	6.5 10^{-8}	5.1 10^{-8}	5.0 10^{-8}	3.6 10^{-8}
		S	0.020	4.2 10^{-7}	0.010	4.0 10^{-7}	2.7 10^{-7}	1.8 10^{-7}	1.6 10^{-7}	1.6 10^{-7}
Sr-91	9.50 h	F	0.600	1.4 10^{-9}	0.300	1.1 10^{-9}	5.2 10^{-10}	3.1 10^{-10}	1.7 10^{-10}	1.6 10^{-10}
		M	0.200	3.1 10^{-9}	0.100	2.2 10^{-9}	1.1 10^{-9}	6.9 10^{-10}	4.4 10^{-10}	3.7 10^{-10}
		S	0.020	3.5 10^{-9}	0.010	2.5 10^{-9}	1.2 10^{-9}	7.7 10^{-10}	4.9 10^{-10}	4.1 10^{-10}
Sr-92	2.71 h	F	0.600	9.0 10^{-10}	0.300	7.1 10^{-10}	3.3 10^{-10}	2.0 10^{-10}	1.0 10^{-10}	9.8 10^{-11}
		M	0.200	1.9 10^{-9}	0.100	1.4 10^{-9}	6.5 10^{-10}	4.1 10^{-10}	2.5 10^{-10}	2.1 10^{-10}
		S	0.020	2.2 10^{-9}	0.010	1.5 10^{-9}	7.0 10^{-10}	4.5 10^{-10}	2.7 10^{-10}	2.3 10^{-10}
Yttrium										
Y-86	14.7 h	M	0.001	3.7 10^{-9}	1.0 10^{-4}	2.9 10^{-9}	1.5 10^{-9}	9.3 10^{-10}	5.6 10^{-10}	4.5 10^{-10}
		S	0.001	3.8 10^{-9}	1.0 10^{-4}	3.0 10^{-9}	1.5 10^{-9}	9.6 10^{-10}	5.8 10^{-10}	4.7 10^{-10}
Y-86m	0.800 h	M	0.001	2.2 10^{-10}	1.0 10^{-4}	1.7 10^{-10}	8.7 10^{-11}	5.6 10^{-11}	3.4 10^{-11}	2.7 10^{-11}
		S	0.001	2.3 10^{-10}	1.0 10^{-4}	1.8 10^{-10}	9.0 10^{-11}	5.7 10^{-11}	3.5 10^{-11}	2.8 10^{-11}
Y-87	3.35 d	M	0.001	2.7 10^{-9}	1.0 10^{-4}	2.1 10^{-9}	1.1 10^{-9}	7.0 10^{-10}	4.7 10^{-10}	3.7 10^{-10}
		S	0.001	2.8 10^{-9}	1.0 10^{-4}	2.2 10^{-9}	1.1 10^{-9}	7.3 10^{-10}	5.0 10^{-10}	3.9 10^{-10}
Y-88	107 d	M	0.001	1.9 10^{-8}	1.0 10^{-4}	1.6 10^{-8}	1.0 10^{-8}	6.7 10^{-9}	4.9 10^{-9}	4.1 10^{-9}
		S	0.001	2.0 10^{-8}	1.0 10^{-4}	1.7 10^{-8}	9.8 10^{-9}	6.6 10^{-9}	5.4 10^{-9}	4.4 10^{-9}
Y-90	2.67 d	M	0.001	1.3 10^{-8}	1.0 10^{-4}	8.4 10^{-9}	4.0 10^{-9}	2.6 10^{-9}	1.7 10^{-9}	1.4 10^{-9}
		S	0.001	1.3 10^{-8}	1.0 10^{-4}	8.8 10^{-9}	4.2 10^{-9}	2.7 10^{-9}	1.8 10^{-9}	1.5 10^{-9}

[7)] The value of f_l for 1 to 15 year olds for type F is 0.4.

TABLE B (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for inhaled radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Lung absorp-tion type	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
			f_1 for $g \le 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Y-90m	3.19 h	M	0.001	7.2 10^{-10}	1.0 10^{-4}	5.7 10^{-10}	2.8 10^{-10}	1.8 10^{-10}	1.1 10^{-10}	9.5 10^{-11}
		S	0.001	7.5 10^{-10}	1.0 10^{-4}	6.0 10^{-10}	2.9 10^{-10}	1.9 10^{-10}	1.2 10^{-10}	1.0 10^{-10}
Y-91	58.5 d	M	0.001	3.9 10^{-8}	1.0 10^{-4}	3.0 10^{-8}	1.6 10^{-8}	1.1 10^{-8}	8.4 10^{-9}	7.1 10^{-9}
		S	0.001	4.3 10^{-8}	1.0 10^{-4}	3.4 10^{-8}	1.9 10^{-8}	1.3 10^{-8}	1.0 10^{-8}	8.9 10^{-9}
Y-91m	0.828 h	M	0.001	7.0 10^{-11}	1.0 10^{-4}	5.5 10^{-11}	2.9 10^{-11}	1.8 10^{-11}	1.2 10^{-11}	1.0 10^{-11}
		S	0.001	7.4 10^{-11}	1.0 10^{-4}	5.9 10^{-11}	3.1 10^{-11}	2.0 10^{-11}	1.4 10^{-11}	1.1 10^{-11}
Y-92	3.54 h	M	0.001	1.8 10^{-9}	1.0 10^{-4}	1.2 10^{-9}	5.3 10^{-10}	3.3 10^{-10}	2.0 10^{-10}	1.7 10^{-10}
		S	0.001	1.9 10^{-9}	1.0 10^{-4}	1.2 10^{-9}	5.5 10^{-10}	3.5 10^{-10}	2.1 10^{-10}	1.8 10^{-10}
Y-93	10.1 h	M	0.001	4.4 10^{-9}	1.0 10^{-4}	2.9 10^{-9}	1.3 10^{-9}	8.1 10^{-10}	4.7 10^{-10}	4.0 10^{-10}
		S	0.001	4.6 10^{-9}	1.0 10^{-4}	3.0 10^{-9}	1.4 10^{-9}	8.5 10^{-10}	5.0 10^{-10}	4.2 10^{-10}
Y-94	0.318 h	M	0.001	2.8 10^{-10}	1.0 10^{-4}	1.8 10^{-10}	8.1 10^{-11}	5.0 10^{-11}	3.1 10^{-11}	2.7 10^{-11}
		S	0.001	2.9 10^{-10}	1.0 10^{-4}	1.9 10^{-10}	8.4 10^{-11}	5.2 10^{-11}	3.3 10^{-11}	2.8 10^{-11}
Y-95	0.178 h	M	0.001	1.5 10^{-10}	1.0 10^{-4}	9.8 10^{-11}	4.4 10^{-11}	2.8 10^{-11}	1.8 10^{-11}	1.5 10^{-11}
		S	0.001	1.6 10^{-10}	1.0 10^{-4}	1.0 10^{-10}	4.5 10^{-11}	2.9 10^{-11}	1.8 10^{-11}	1.6 10^{-11}
Zirconium										
Zr-86	16.5 h	F	0.020	2.4 10^{-9}	0.002	1.9 10^{-9}	9.5 10^{-10}	5.9 10^{-10}	3.4 10^{-10}	2.7 10^{-10}
		M	0.020	3.4 10^{-9}	0.002	2.6 10^{-9}	1.3 10^{-9}	8.4 10^{-10}	5.2 10^{-10}	4.2 10^{-10}
		S	0.020	3.5 10^{-9}	0.002	2.7 10^{-9}	1.4 10^{-9}	8.7 10^{-10}	5.4 10^{-10}	4.3 10^{-10}
Zr-88	83.4 d	F	0.020	6.9 10^{-9}	0.002	8.3 10^{-9}	5.6 10^{-9}	4.7 10^{-9}	3.6 10^{-9}	3.5 10^{-9}
		M	0.020	8.5 10^{-9}	0.002	7.8 10^{-9}	5.1 10^{-9}	3.6 10^{-9}	3.0 10^{-9}	2.6 10^{-9}
		S	0.020	1.3 10^{-8}	0.002	1.2 10^{-8}	7.7 10^{-9}	5.2 10^{-9}	4.3 10^{-9}	3.6 10^{-9}
Zr-89	3.27 d	F	0.020	2.6 10^{-9}	0.002	2.0 10^{-9}	9.9 10^{-10}	6.1 10^{-10}	3.6 10^{-10}	2.9 10^{-10}
		M	0.020	3.7 10^{-9}	0.002	2.8 10^{-9}	1.5 10^{-9}	9.6 10^{-10}	6.5 10^{-10}	5.2 10^{-10}
		S	0.020	3.9 10^{-9}	0.002	2.9 10^{-9}	1.5 10^{-9}	1.0 10^{-9}	6.8 10^{-10}	5.5 10^{-10}
Zr-93	1.53 10^{6} a	F	0.020	3.5 10^{-9}	0.002	4.8 10^{-9}	5.3 10^{-9}	9.7 10^{-9}	1.8 10^{-8}	2.5 10^{-8}
		M	0.020	3.3 10^{-9}	0.002	3.1 10^{-9}	2.8 10^{-9}	4.1 10^{-9}	7.5 10^{-9}	1.0 10^{-8}
		S	0.020	7.0 10^{-9}	0.002	6.4 10^{-9}	4.5 10^{-9}	3.3 10^{-9}	3.3 10^{-9}	3.3 10^{-9}
Zr-95	64.0 d	F	0.020	1.2 10^{-8}	0.002	1.1 10^{-8}	6.4 10^{-9}	4.2 10^{-9}	2.8 10^{-9}	2.5 10^{-9}
		M	0.020	2.0 10^{-8}	0.002	1.6 10^{-8}	9.7 10^{-9}	6.8 10^{-9}	5.9 10^{-9}	4.8 10^{-9}
		S	0.020	2.4 10^{-8}	0.002	1.9 10^{-8}	1.2 10^{-8}	8.3 10^{-9}	7.3 10^{-9}	5.9 10^{-9}
Zr-97	16.9 h	F	0.020	5.0 10^{-9}	0.002	3.4 10^{-9}	1.5 10^{-9}	9.1 10^{-10}	4.8 10^{-10}	3.9 10^{-10}
		M	0.020	7.8 10^{-9}	0.002	5.3 10^{-9}	2.8 10^{-9}	1.8 10^{-9}	1.1 10^{-9}	9.2 10^{-10}
		S	0.020	8.2 10^{-9}	0.002	5.6 10^{-9}	2.9 10^{-9}	1.9 10^{-9}	1.2 10^{-9}	8.9 10^{-10}
Niobium										
Nb-88	0.238 h	F	0.020	1.8 10^{-10}	0.010	1.3 10^{-10}	6.3 10^{-11}	3.0 10^{-11}	2.4 10^{-11}	1.9 10^{-11}
		M	0.020	2.5 10^{-10}	0.010	1.8 10^{-10}	8.5 10^{-11}	5.3 10^{-11}	3.3 10^{-11}	2.7 10^{-11}
		S	0.020	2.6 10^{-10}	0.010	1.8 10^{-10}	8.7 10^{-11}	5.5 10^{-11}	3.5 10^{-11}	2.8 10^{-11}
Nb-89	2.03 h	F	0.020	7.0 10^{-10}	0.010	4.8 10^{-10}	2.2 10^{-10}	1.3 10^{-10}	7.4 10^{-11}	6.1 10^{-11}
		M	0.020	1.1 10^{-9}	0.010	7.6 10^{-10}	3.6 10^{-10}	2.2 10^{-10}	1.4 10^{-10}	1.1 10^{-10}
		S	0.020	1.2 10^{-9}	0.010	7.9 10^{-10}	3.7 10^{-10}	2.3 10^{-10}	1.5 10^{-10}	1.2 10^{-10}
Nb-89	1.10 h	F	0.020	4.0 10^{-10}	0.010	2.9 10^{-10}	1.4 10^{-10}	8.3 10^{-11}	4.8 10^{-11}	3.9 10^{-11}
		M	0.020	6.2 10^{-10}	0.010	4.3 10^{-10}	2.1 10^{-10}	1.3 10^{-10}	8.2 10^{-11}	6.8 10^{-11}
		S	0.020	6.4 10^{-10}	0.010	4.4 10^{-10}	2.1 10^{-10}	1.4 10^{-10}	8.6 10^{-11}	7.1 10^{-11}
Nb-90	14.6 h	F	0.020	3.5 10^{-9}	0.010	2.7 10^{-9}	1.3 10^{-9}	8.2 10^{-10}	4.7 10^{-10}	3.8 10^{-10}
		M	0.020	5.1 10^{-9}	0.010	3.9 10^{-9}	1.9 10^{-9}	1.3 10^{-9}	7.8 10^{-10}	6.3 10^{-10}
		S	0.020	5.3 10^{-9}	0.010	4.0 10^{-9}	2.0 10^{-9}	1.3 10^{-9}	8.1 10^{-10}	6.6 10^{-10}
Nb-93m	13.6 a	F	0.020	1.8 10^{-9}	0.010	1.4 10^{-9}	7.0 10^{-10}	4.4 10^{-10}	2.7 10^{-10}	2.2 10^{-10}
		M	0.020	3.1 10^{-9}	0.010	2.4 10^{-9}	1.3 10^{-9}	8.2 10^{-10}	5.9 10^{-10}	5.1 10^{-10}
		S	0.020	7.4 10^{-9}	0.010	6.5 10^{-9}	4.0 10^{-9}	2.5 10^{-9}	1.9 10^{-9}	1.8 10^{-9}
Nb-94	2.03 10^{4} a	F	0.020	3.1 10^{-8}	0.010	2.7 10^{-8}	1.5 10^{-8}	1.0 10^{-8}	6.7 10^{-9}	5.8 10^{-9}
		M	0.020	4.3 10^{-8}	0.010	3.7 10^{-8}	2.3 10^{-8}	1.6 10^{-8}	1.3 10^{-8}	1.1 10^{-8}
		S	0.020	1.2 10^{-7}	0.010	1.2 10^{-7}	8.3 10^{-8}	5.8 10^{-8}	5.2 10^{-8}	4.9 10^{-8}
Nb-95	35.1 d	F	0.020	4.1 10^{-9}	0.010	3.1 10^{-9}	1.6 10^{-9}	1.2 10^{-9}	7.5 10^{-10}	5.7 10^{-10}
		M	0.020	6.8 10^{-9}	0.010	5.2 10^{-9}	3.1 10^{-9}	2.2 10^{-9}	1.9 10^{-9}	1.5 10^{-9}
		S	0.020	7.7 10^{-9}	0.010	5.9 10^{-9}	3.6 10^{-9}	2.5 10^{-9}	2.2 10^{-9}	1.8 10^{-9}
Nb-95m	3.61 d	F	0.020	2.3 10^{-9}	0.010	1.6 10^{-9}	7.0 10^{-10}	4.2 10^{-10}	2.4 10^{-10}	2.0 10^{-10}
		M	0.020	4.3 10^{-9}	0.010	3.1 10^{-9}	1.7 10^{-9}	1.2 10^{-9}	1.0 10^{-9}	7.9 10^{-10}
		S	0.020	4.6 10^{-9}	0.010	3.4 10^{-9}	1.9 10^{-9}	1.3 10^{-9}	1.1 10^{-9}	8.8 10^{-10}
Nb-96	23.3 h	F	0.020	3.1 10^{-9}	0.010	2.4 10^{-9}	1.2 10^{-9}	7.3 10^{-10}	4.2 10^{-10}	3.4 10^{-10}
		M	0.020	4.7 10^{-9}	0.010	3.6 10^{-9}	1.8 10^{-9}	1.2 10^{-9}	7.8 10^{-10}	6.3 10^{-10}
		S	0.020	4.9 10^{-9}	0.010	3.7 10^{-9}	1.9 10^{-9}	1.2 10^{-9}	8.3 10^{-10}	6.6 10^{-10}
Nb-97	1.20 h	F	0.020	2.2 10^{-10}	0.010	1.5 10^{-10}	6.8 10^{-11}	4.2 10^{-11}	2.5 10^{-11}	2.1 10^{-11}
		M	0.020	3.7 10^{-10}	0.010	2.5 10^{-10}	1.2 10^{-10}	7.7 10^{-11}	5.2 10^{-11}	4.3 10^{-11}
		S	0.020	3.8 10^{-10}	0.010	2.6 10^{-10}	1.2 10^{-10}	8.1 10^{-11}	5.5 10^{-11}	4.5 10^{-11}

TABLE B (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for inhaled radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Lung absorp-tion type	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
			f_1 for $g \leq 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Nb-98	0.858 h	F	0.020	3.4 10^{-10}	0.010	2.4 10^{-10}	1.1 10^{-10}	6.9 10^{-11}	4.1 10^{-11}	3.3 10^{-11}
		M	0.020	5.2 10^{-10}	0.010	3.6 10^{-10}	1.7 10^{-10}	1.1 10^{-10}	6.8 10^{-11}	5.6 10^{-11}
		S	0.020	5.3 10^{-10}	0.010	3.7 10^{-10}	1.8 10^{-10}	1.1 10^{-10}	7.1 10^{-11}	5.8 10^{-11}
Molybdenum										
Mo-90	5.67 h	F	1.000	1.2 10^{-9}	0.800	1.1 10^{-9}	5.3 10^{-10}	3.2 10^{-10}	1.9 10^{-10}	1.5 10^{-10}
		M	0.200	2.6 10^{-9}	0.100	2.0 10^{-9}	9.9 10^{-10}	6.5 10^{-10}	4.2 10^{-10}	3.4 10^{-10}
		S	0.020	2.8 10^{-9}	0.010	2.1 10^{-9}	1.1 10^{-9}	6.9 10^{-10}	4.5 10^{-10}	3.6 10^{-10}
Mo-93	3.50 10^{3} a	F	1.000	3.1 10^{-9}	0.800	2.6 10^{-9}	1.7 10^{-9}	1.3 10^{-9}	1.1 10^{-9}	1.0 10^{-9}
		M	0.200	2.2 10^{-9}	0.100	1.8 10^{-9}	1.1 10^{-9}	7.9 10^{-10}	6.6 10^{-10}	5.9 10^{-10}
		S	0.020	6.0 10^{-9}	0.010	5.8 10^{-9}	4.0 10^{-9}	2.8 10^{-9}	2.4 10^{-9}	2.3 10^{-9}
Mo-93m	6.85 h	F	1.000	7.3 10^{-10}	0.800	6.4 10^{-10}	3.3 10^{-10}	2.0 10^{-10}	1.2 10^{-10}	9.6 10^{-11}
		M	0.200	1.2 10^{-9}	0.100	9.7 10^{-10}	5.0 10^{-10}	3.2 10^{-10}	2.0 10^{-10}	1.6 10^{-10}
		S	0.020	1.3 10^{-9}	0.010	1.0 10^{-9}	5.2 10^{-10}	3.4 10^{-10}	2.1 10^{-10}	1.7 10^{-10}
Mo-99	2.75 d	F	1.000	2.3 10^{-9}	0.800	1.7 10^{-9}	7.7 10^{-10}	4.7 10^{-10}	2.6 10^{-10}	2.2 10^{-10}
		M	0.200	6.0 10^{-9}	0.100	4.4 10^{-9}	2.2 10^{-9}	1.5 10^{-9}	1.1 10^{-9}	8.9 10^{-10}
		S	0.020	6.9 10^{-9}	0.010	4.8 10^{-9}	2.4 10^{-9}	1.7 10^{-9}	1.2 10^{-9}	9.9 10^{-10}
Mo-101	0.244 h	F	1.000	1.4 10^{-10}	0.800	9.7 10^{-11}	4.4 10^{-11}	2.8 10^{-11}	1.7 10^{-11}	1.4 10^{-11}
		M	0.200	2.2 10^{-10}	0.100	1.5 10^{-10}	7.0 10^{-11}	4.5 10^{-11}	3.0 10^{-11}	2.5 10^{-11}
		S	0.020	2.3 10^{-10}	0.010	1.6 10^{-10}	7.2 10^{-11}	4.7 10^{-11}	3.1 10^{-11}	2.6 10^{-11}
Technetium										
Tc-93	2.75 h	F	1.000	2.4 10^{-10}	0.800	2.1 10^{-10}	1.1 10^{-10}	6.7 10^{-11}	4.0 10^{-11}	3.2 10^{-11}
		M	0.200	2.7 10^{-10}	0.100	2.3 10^{-10}	1.2 10^{-10}	7.5 10^{-11}	4.4 10^{-11}	3.5 10^{-11}
		S	0.020	2.8 10^{-10}	0.010	2.3 10^{-10}	1.2 10^{-10}	7.6 10^{-11}	4.5 10^{-11}	3.5 10^{-11}
Tc-93m	0.725 h	F	1.000	1.2 10^{-10}	0.800	9.8 10^{-11}	4.9 10^{-11}	2.9 10^{-11}	1.8 10^{-11}	1.4 10^{-11}
		M	0.200	1.4 10^{-10}	0.100	1.1 10^{-10}	5.4 10^{-11}	3.4 10^{-11}	2.1 10^{-11}	1.7 10^{-11}
		S	0.020	1.4 10^{-10}	0.010	1.1 10^{-10}	5.4 10^{-11}	3.4 10^{-11}	2.1 10^{-11}	1.7 10^{-11}
Tc-94	4.88 h	F	1.000	8.9 10^{-10}	0.800	7.5 10^{-10}	3.9 10^{-10}	2.3 10^{-10}	1.4 10^{-10}	1.1 10^{-10}
		M	0.200	9.8 10^{-10}	0.100	8.1 10^{-10}	4.2 10^{-10}	2.6 10^{-10}	1.6 10^{-10}	1.2 10^{-10}
		S	0.020	9.9 10^{-10}	0.010	8.2 10^{-10}	4.3 10^{-10}	2.7 10^{-10}	1.6 10^{-10}	1.3 10^{-10}
Tc-94m	0.867 h	F	1.000	4.8 10^{-10}	0.800	3.4 10^{-10}	1.6 10^{-10}	8.6 10^{-11}	5.2 10^{-11}	4.1 10^{-11}
		M	0.200	4.4 10^{-10}	0.100	3.0 10^{-10}	1.4 10^{-10}	8.8 10^{-11}	5.5 10^{-11}	4.5 10^{-11}
		S	0.020	4.3 10^{-10}	0.010	3.0 10^{-10}	1.4 10^{-10}	8.8 10^{-11}	5.6 10^{-11}	4.6 10^{-11}
Tc-95	20.0 h	F	1.000	7.5 10^{-10}	0.800	6.3 10^{-10}	3.3 10^{-10}	2.0 10^{-10}	1.2 10^{-10}	9.6 10^{-11}
		M	0.200	8.3 10^{-10}	0.100	6.9 10^{-10}	3.6 10^{-10}	2.2 10^{-10}	1.3 10^{-10}	1.0 10^{-10}
		S	0.020	8.5 10^{-10}	0.010	7.0 10^{-10}	3.6 10^{-10}	2.3 10^{-10}	1.4 10^{-10}	1.1 10^{-10}
Tc-95m	61.0 d	F	1.000	2.4 10^{-9}	0.800	1.8 10^{-9}	9.3 10^{-10}	5.7 10^{-10}	3.6 10^{-10}	2.9 10^{-10}
		M	0.200	4.9 10^{-9}	0.100	4.0 10^{-9}	2.3 10^{-9}	1.5 10^{-9}	1.1 10^{-9}	8.8 10^{-10}
		S	0.020	6.0 10^{-9}	0.010	5.0 10^{-9}	2.7 10^{-9}	1.8 10^{-9}	1.5 10^{-9}	1.2 10^{-9}
Tc-96	4.28 d	F	1.000	4.2 10^{-9}	0.800	3.4 10^{-9}	1.8 10^{-9}	1.1 10^{-9}	7.0 10^{-10}	5.7 10^{-10}
		M	0.200	4.7 10^{-9}	0.100	3.9 10^{-9}	2.1 10^{-9}	1.3 10^{-9}	8.6 10^{-10}	6.8 10^{-10}
		S	0.020	4.8 10^{-9}	0.010	3.9 10^{-9}	2.1 10^{-9}	1.4 10^{-9}	8.9 10^{-10}	7.0 10^{-10}
Tc-96m	0.858 h	F	1.000	5.3 10^{-11}	0.800	4.1 10^{-11}	2.1 10^{-11}	1.3 10^{-11}	7.7 10^{-12}	6.2 10^{-12}
		M	0.200	5.6 10^{-11}	0.100	4.4 10^{-11}	2.3 10^{-11}	1.4 10^{-11}	9.3 10^{-12}	7.4 10^{-12}
		S	0.020	5.7 10^{-11}	0.010	4.4 10^{-11}	2.3 10^{-11}	1.5 10^{-11}	9.5 10^{-12}	7.5 10^{-12}
Tc-97	2.60 10^{6} a	F	1.000	5.2 10^{-10}	0.800	3.7 10^{-10}	1.7 10^{-10}	9.4 10^{-11}	5.6 10^{-11}	4.3 10^{-11}
		M	0.200	1.2 10^{-9}	0.100	1.0 10^{-9}	5.7 10^{-10}	3.6 10^{-10}	2.8 10^{-10}	2.2 10^{-10}
		S	0.020	5.0 10^{-9}	0.010	4.8 10^{-9}	3.3 10^{-9}	2.2 10^{-9}	1.9 10^{-9}	1.8 10^{-9}
Tc-97m	87.0 d	F	1.000	3.4 10^{-9}	0.800	2.3 10^{-9}	9.8 10^{-10}	5.6 10^{-10}	3.0 10^{-10}	2.7 10^{-10}
		M	0.200	1.3 10^{-8}	0.100	1.0 10^{-8}	6.1 10^{-9}	4.4 10^{-9}	4.1 10^{-9}	3.2 10^{-9}
		S	0.020	1.6 10^{-8}	0.010	1.3 10^{-8}	7.8 10^{-9}	5.7 10^{-9}	5.2 10^{-9}	4.1 10^{-9}
Tc-98	4.20 10^{6} a	F	1.000	1.0 10^{-8}	0.800	6.8 10^{-9}	3.2 10^{-9}	1.9 10^{-9}	1.2 10^{-9}	9.7 10^{-10}
		M	0.200	3.5 10^{-8}	0.100	2.9 10^{-8}	1.7 10^{-8}	1.2 10^{-8}	1.0 10^{-8}	8.3 10^{-9}
		S	0.020	1.1 10^{-7}	0.010	1.1 10^{-7}	7.6 10^{-8}	5.4 10^{-8}	4.8 10^{-8}	4.5 10^{-8}
Tc-99	2.13 10^{5} a	F	1.000	4.0 10^{-9}	0.800	2.5 10^{-9}	1.0 10^{-9}	5.9 10^{-10}	3.6 10^{-10}	2.9 10^{-10}
		M	0.200	1.7 10^{-8}	0.100	1.3 10^{-8}	8.0 10^{-9}	5.7 10^{-9}	5.0 10^{-9}	4.0 10^{-9}
		S	0.020	4.1 10^{-8}	0.010	3.7 10^{-8}	2.4 10^{-8}	1.7 10^{-8}	1.5 10^{-8}	1.3 10^{-8}
Tc-99m	6.02 h	F	1.000	1.2 10^{-10}	0.800	8.7 10^{-11}	4.1 10^{-11}	2.4 10^{-11}	1.5 10^{-11}	1.2 10^{-11}
		M	0.200	1.3 10^{-10}	0.100	9.9 10^{-11}	5.1 10^{-11}	3.4 10^{-11}	2.4 10^{-11}	1.9 10^{-11}
		S	0.020	1.3 10^{-10}	0.010	1.0 10^{-10}	5.2 10^{-11}	3.5 10^{-11}	2.5 10^{-11}	2.0 10^{-11}
Tc-101	0.237 h	F	1.000	8.5 10^{-11}	0.800	5.6 10^{-11}	2.5 10^{-11}	1.6 10^{-11}	9.7 10^{-12}	8.2 10^{-12}
		M	0.200	1.1 10^{-10}	0.100	7.1 10^{-11}	3.2 10^{-11}	2.1 10^{-11}	1.4 10^{-11}	1.2 10^{-11}
		S	0.020	1.1 10^{-10}	0.010	7.3 10^{-11}	3.3 10^{-11}	2.2 10^{-11}	1.4 10^{-11}	1.2 10^{-11}

TABLE B (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for inhaled radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Lung absorp-tion type	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
			f_1 for $g \leq 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Tc-104	0.303 h	F	1.000	2.7 10^{-10}	0.800	1.8 10^{-10}	8.0 10^{-11}	4.6 10^{-11}	2.8 10^{-11}	2.3 10^{-11}
		M	0.200	2.9 10^{-10}	0.100	1.9 10^{-10}	8.6 10^{-11}	5.4 10^{-11}	3.3 10^{-11}	2.8 10^{-11}
		S	0.020	2.9 10^{-10}	0.010	1.9 10^{-10}	8.7 10^{-11}	5.4 10^{-11}	3.4 10^{-11}	2.9 10^{-11}
Ruthenium										
Ru-94	0.863 h	F	0.100	2.5 10^{-10}	0.050	1.9 10^{-10}	9.0 10^{-11}	5.4 10^{-11}	3.1 10^{-11}	2.5 10^{-11}
		M	0.100	3.8 10^{-10}	0.050	2.8 10^{-10}	1.3 10^{-10}	8.4 10^{-11}	5.2 10^{-11}	4.2 10^{-11}
		S	0.020	4.0 10^{-10}	0.010	2.9 10^{-10}	1.4 10^{-10}	8.7 10^{-11}	5.4 10^{-11}	4.4 10^{-11}
Ru-97	2.90 d	F	0.100	5.5 10^{-10}	0.050	4.4 10^{-10}	2.2 10^{-10}	1.3 10^{-10}	7.7 10^{-11}	6.2 10^{-11}
		M	0.100	7.7 10^{-10}	0.050	6.1 10^{-10}	3.1 10^{-10}	2.0 10^{-10}	1.3 10^{-10}	1.0 10^{-10}
		S	0.020	8.1 10^{-10}	0.010	6.3 10^{-10}	3.3 10^{-10}	2.1 10^{-10}	1.4 10^{-10}	1.1 10^{-10}
Ru-103	39.3 d	F	0.100	4.2 10^{-9}	0.050	3.0 10^{-9}	1.5 10^{-9}	9.3 10^{-10}	5.6 10^{-10}	4.8 10^{-10}
		M	0.100	1.1 10^{-8}	0.050	8.4 10^{-9}	5.0 10^{-9}	3.5 10^{-9}	3.0 10^{-9}	2.4 10^{-9}
		S	0.020	1.3 10^{-8}	0.010	1.0 10^{-8}	6.0 10^{-9}	4.2 10^{-9}	3.7 10^{-9}	3.0 10^{-9}
Ru-105	4.44 h	F	0.100	7.1 10^{-10}	0.050	5.1 10^{-10}	2.3 10^{-10}	1.4 10^{-10}	7.9 10^{-11}	6.5 10^{-11}
		M	0.100	1.3 10^{-9}	0.050	9.2 10^{-10}	4.5 10^{-10}	3.0 10^{-10}	2.0 10^{-10}	1.7 10^{-10}
		S	0.020	1.4 10^{-9}	0.010	9.8 10^{-10}	4.8 10^{-10}	3.2 10^{-10}	2.2 10^{-10}	1.8 10^{-10}
Ru-106	1.01 a	F	0.100	7.2 10^{-8}	0.050	5.4 10^{-8}	2.6 10^{-8}	1.6 10^{-8}	9.2 10^{-9}	7.9 10^{-9}
		M	0.100	1.4 10^{-7}	0.050	1.1 10^{-7}	6.4 10^{-8}	4.1 10^{-8}	3.1 10^{-8}	2.8 10^{-8}
		S	0.020	2.6 10^{-7}	0.010	2.3 10^{-7}	1.4 10^{-7}	9.1 10^{-8}	7.1 10^{-8}	6.6 10^{-8}
Rhodium										
Rh-99	16.0 d	F	0.100	2.6 10^{-9}	0.050	2.0 10^{-9}	9.9 10^{-10}	6.2 10^{-10}	3.8 10^{-10}	3.2 10^{-10}
		M	0.100	4.5 10^{-9}	0.050	3.5 10^{-9}	2.0 10^{-9}	1.3 10^{-9}	9.6 10^{-10}	7.7 10^{-10}
		S	0.100	4.9 10^{-9}	0.050	3.8 10^{-9}	2.2 10^{-9}	1.3 10^{-9}	1.1 10^{-9}	8.7 10^{-10}
Rh-99m	4.70 h	F	0.100	2.4 10^{-10}	0.050	2.0 10^{-10}	1.0 10^{-10}	6.1 10^{-11}	3.5 10^{-11}	2.8 10^{-11}
		M	0.100	3.1 10^{-10}	0.050	2.5 10^{-10}	1.3 10^{-10}	8.0 10^{-11}	4.9 10^{-11}	3.9 10^{-11}
		S	0.100	3.2 10^{-10}	0.050	2.6 10^{-10}	1.3 10^{-10}	8.2 10^{-11}	5.1 10^{-11}	4.0 10^{-11}
Rh-100	20.8 h	F	0.100	2.1 10^{-9}	0.050	1.8 10^{-9}	9.1 10^{-10}	5.6 10^{-10}	3.3 10^{-10}	2.6 10^{-10}
		M	0.100	2.7 10^{-9}	0.050	2.2 10^{-9}	1.1 10^{-9}	7.1 10^{-10}	4.3 10^{-10}	3.4 10^{-10}
		S	0.100	2.8 10^{-9}	0.050	2.2 10^{-9}	1.2 10^{-9}	7.3 10^{-10}	4.4 10^{-10}	3.5 10^{-10}
Rh-101	3.20 a	F	0.100	7.4 10^{-9}	0.050	6.1 10^{-9}	3.5 10^{-9}	2.3 10^{-9}	1.5 10^{-9}	1.4 10^{-9}
		M	0.100	9.8 10^{-9}	0.050	8.0 10^{-9}	4.9 10^{-9}	3.4 10^{-9}	2.8 10^{-9}	2.3 10^{-9}
		S	0.100	1.9 10^{-8}	0.050	1.7 10^{-8}	1.1 10^{-8}	7.4 10^{-9}	6.2 10^{-9}	5.4 10^{-9}
Rh-101m	4.34 d	F	0.100	8.4 10^{-10}	0.050	6.6 10^{-10}	3.3 10^{-10}	2.0 10^{-10}	1.2 10^{-10}	9.7 10^{-11}
		M	0.100	1.3 10^{-9}	0.050	9.8 10^{-10}	5.2 10^{-10}	3.5 10^{-10}	2.5 10^{-10}	1.9 10^{-10}
		S	0.100	1.3 10^{-9}	0.050	1.0 10^{-9}	5.5 10^{-10}	3.7 10^{-10}	2.7 10^{-10}	2.1 10^{-10}
Rh-102	2.90 a	F	0.100	3.3 10^{-8}	0.050	2.8 10^{-8}	1.7 10^{-8}	1.1 10^{-8}	7.9 10^{-9}	7.3 10^{-9}
		M	0.100	3.0 10^{-8}	0.050	2.5 10^{-8}	1.5 10^{-8}	1.0 10^{-8}	7.9 10^{-9}	6.9 10^{-9}
		S	0.100	5.4 10^{-8}	0.050	5.0 10^{-8}	3.5 10^{-8}	2.4 10^{-8}	2.0 10^{-8}	1.7 10^{-8}
Rh-102m	207 d	F	0.100	1.2 10^{-8}	0.050	8.7 10^{-9}	4.4 10^{-9}	2.7 10^{-9}	1.7 10^{-9}	1.5 10^{-9}
		M	0.100	2.0 10^{-8}	0.050	1.6 10^{-8}	9.0 10^{-9}	6.0 10^{-9}	4.7 10^{-9}	4.0 10^{-9}
		S	0.100	3.0 10^{-8}	0.050	2.5 10^{-8}	1.5 10^{-8}	1.0 10^{-8}	8.2 10^{-9}	7.1 10^{-9}
Rh-103m	0.935 h	F	0.100	8.6 10^{-12}	0.050	5.9 10^{-12}	2.7 10^{-12}	1.6 10^{-12}	1.0 10^{-12}	8.6 10^{-13}
		M	0.100	1.9 10^{-11}	0.050	1.2 10^{-11}	6.3 10^{-12}	4.0 10^{-12}	3.0 10^{-12}	2.5 10^{-12}
		S	0.100	2.0 10^{-11}	0.050	1.3 10^{-11}	6.7 10^{-12}	4.3 10^{-12}	3.2 10^{-12}	2.7 10^{-12}
Rh-105	1.47 d	F	0.100	1.0 10^{-9}	0.050	6.9 10^{-10}	3.0 10^{-10}	1.8 10^{-10}	9.6 10^{-11}	8.2 10^{-11}
		M	0.100	2.2 10^{-9}	0.050	1.6 10^{-9}	7.4 10^{-10}	5.2 10^{-10}	4.1 10^{-10}	3.2 10^{-10}
		S	0.100	2.4 10^{-9}	0.050	1.7 10^{-9}	8.0 10^{-10}	5.6 10^{-10}	4.5 10^{-10}	3.5 10^{-10}
Rh-106m	2.20 h	F	0.100	5.7 10^{-10}	0.050	4.5 10^{-10}	2.2 10^{-10}	1.4 10^{-10}	8.0 10^{-11}	6.5 10^{-11}
		M	0.100	8.2 10^{-10}	0.050	6.3 10^{-10}	3.2 10^{-10}	2.0 10^{-10}	1.3 10^{-10}	1.1 10^{-10}
		S	0.100	8.5 10^{-10}	0.050	6.5 10^{-10}	3.3 10^{-10}	2.1 10^{-10}	1.4 10^{-10}	1.1 10^{-10}
Rh-107	0.362 h	F	0.100	8.9 10^{-11}	0.050	5.9 10^{-11}	2.6 10^{-11}	1.7 10^{-11}	1.0 10^{-11}	9.0 10^{-12}
		M	0.100	1.4 10^{-10}	0.050	9.3 10^{-11}	4.2 10^{-11}	2.8 10^{-11}	1.9 10^{-11}	1.6 10^{-11}
		S	0.100	1.5 10^{-10}	0.050	9.7 10^{-11}	4.4 10^{-11}	2.9 10^{-11}	1.9 10^{-11}	1.7 10^{-11}
Palladium										
Pd-100	3.63 d	F	0.050	3.9 10^{-9}	0.005	3.0 10^{-9}	1.5 10^{-9}	9.7 10^{-10}	5.8 10^{-10}	4.7 10^{-10}
		M	0.050	5.2 10^{-9}	0.005	4.0 10^{-9}	2.2 10^{-9}	1.4 10^{-9}	9.9 10^{-10}	8.0 10^{-10}
		S	0.050	5.3 10^{-9}	0.005	4.1 10^{-9}	2.2 10^{-9}	1.5 10^{-9}	1.0 10^{-9}	8.5 10^{-10}
Pd-101	8.27 h	F	0.050	3.6 10^{-10}	0.005	2.9 10^{-10}	1.4 10^{-10}	8.6 10^{-11}	4.9 10^{-11}	3.9 10^{-11}
		M	0.050	4.8 10^{-10}	0.005	3.8 10^{-10}	1.9 10^{-10}	1.2 10^{-10}	7.5 10^{-11}	5.9 10^{-11}
		S	0.050	5.0 10^{-10}	0.005	3.9 10^{-10}	2.0 10^{-10}	1.2 10^{-10}	7.8 10^{-11}	6.2 10^{-11}
Pd-103	17.0 d	F	0.050	9.7 10^{-10}	0.005	6.5 10^{-10}	3.0 10^{-10}	1.9 10^{-10}	1.1 10^{-10}	8.9 10^{-11}
		M	0.050	2.3 10^{-9}	0.005	1.6 10^{-9}	9.0 10^{-10}	5.9 10^{-10}	4.5 10^{-10}	3.8 10^{-10}
		S	0.050	2.5 10^{-9}	0.005	1.8 10^{-9}	1.0 10^{-9}	6.8 10^{-10}	5.3 10^{-10}	4.5 10^{-10}

TABLE B (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for inhaled radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Lung absorption type	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
			f_1 for $g \leq 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Pd-107	6.50 10^{6} a	F	0.050	2.6 10^{-10}	0.005	1.8 10^{-10}	8.2 10^{-11}	5.2 10^{-11}	3.1 10^{-11}	2.5 10^{-11}
		M	0.050	6.5 10^{-10}	0.005	5.0 10^{-10}	2.6 10^{-10}	1.5 10^{-10}	1.0 10^{-10}	8.5 10^{-11}
		S	0.050	2.2 10^{-9}	0.005	2.0 10^{-9}	1.3 10^{-9}	7.8 10^{-10}	6.2 10^{-10}	5.9 10^{-10}
Pd-109	13.4 h	F	0.050	1.5 10^{-9}	0.005	9.9 10^{-10}	4.2 10^{-10}	2.6 10^{-10}	1.4 10^{-10}	1.2 10^{-10}
		M	0.050	2.6 10^{-9}	0.005	1.8 10^{-9}	8.8 10^{-10}	5.9 10^{-10}	4.3 10^{-10}	3.4 10^{-10}
		S	0.050	2.7 10^{-9}	0.005	1.9 10^{-9}	9.3 10^{-10}	6.3 10^{-10}	4.6 10^{-10}	3.7 10^{-10}
Silver										
Ag-102	0.215 h	F	0.100	1.2 10^{-10}	0.050	8.6 10^{-11}	4.2 10^{-11}	2.6 10^{-11}	1.5 10^{-11}	1.3 10^{-11}
		M	0.100	1.6 10^{-10}	0.050	1.1 10^{-10}	5.5 10^{-11}	3.4 10^{-11}	2.1 10^{-11}	1.7 10^{-11}
		S	0.020	1.6 10^{-10}	0.010	1.2 10^{-10}	5.6 10^{-11}	3.5 10^{-11}	2.2 10^{-11}	1.8 10^{-11}
Ag-103	1.09 h	F	0.100	1.4 10^{-10}	0.050	1.0 10^{-10}	4.9 10^{-11}	3.0 10^{-11}	1.8 10^{-11}	1.4 10^{-11}
		M	0.100	2.2 10^{-10}	0.050	1.6 10^{-10}	7.6 10^{-11}	4.8 10^{-11}	3.2 10^{-11}	2.6 10^{-11}
		S	0.020	2.3 10^{-10}	0.010	1.6 10^{-10}	7.9 10^{-11}	5.1 10^{-11}	3.3 10^{-11}	2.7 10^{-11}
Ag-104	1.15 h	F	0.100	2.3 10^{-10}	0.050	1.9 10^{-10}	9.8 10^{-11}	5.9 10^{-11}	3.5 10^{-11}	2.8 10^{-11}
		M	0.100	2.9 10^{-10}	0.050	2.3 10^{-10}	1.2 10^{-10}	7.4 10^{-11}	4.5 10^{-11}	3.6 10^{-11}
		S	0.020	2.9 10^{-10}	0.010	2.4 10^{-10}	1.2 10^{-10}	7.6 10^{-11}	4.6 10^{-11}	3.7 10^{-11}
Ag-104m	0.558 h	F	0.100	1.6 10^{-10}	0.050	1.1 10^{-10}	5.5 10^{-11}	3.4 10^{-11}	2.0 10^{-11}	1.6 10^{-11}
		M	0.100	2.3 10^{-10}	0.050	1.6 10^{-10}	7.7 10^{-11}	4.8 10^{-11}	3.0 10^{-11}	2.5 10^{-11}
		S	0.020	2.4 10^{-10}	0.010	1.7 10^{-10}	8.0 10^{-11}	5.0 10^{-11}	3.1 10^{-11}	2.6 10^{-11}
Ag-105	41.0 d	F	0.100	3.9 10^{-9}	0.050	3.4 10^{-9}	1.7 10^{-9}	1.0 10^{-9}	6.4 10^{-10}	5.4 10^{-10}
		M	0.100	4.5 10^{-9}	0.050	3.5 10^{-9}	2.0 10^{-9}	1.3 10^{-9}	9.0 10^{-10}	7.3 10^{-10}
		S	0.020	4.5 10^{-9}	0.010	3.6 10^{-9}	2.1 10^{-9}	1.3 10^{-9}	1.0 10^{-9}	8.1 10^{-10}
Ag-106	0.399 h	F	0.100	9.4 10^{-11}	0.050	6.4 10^{-11}	2.9 10^{-11}	1.8 10^{-11}	1.1 10^{-11}	9.1 10^{-12}
		M	0.100	1.4 10^{-10}	0.050	9.5 10^{-11}	4.4 10^{-11}	2.8 10^{-11}	1.8 10^{-11}	1.5 10^{-11}
		S	0.020	1.5 10^{-10}	0.010	9.9 10^{-11}	4.5 10^{-11}	2.9 10^{-11}	1.9 10^{-11}	1.6 10^{-11}
Ag-106m	8.41 d	F	0.100	7.7 10^{-9}	0.050	6.1 10^{-9}	3.2 10^{-9}	2.1 10^{-9}	1.3 10^{-9}	1.1 10^{-9}
		M	0.100	7.2 10^{-9}	0.050	5.8 10^{-9}	3.2 10^{-9}	2.1 10^{-9}	1.4 10^{-9}	1.1 10^{-9}
		S	0.020	7.0 10^{-9}	0.010	5.7 10^{-9}	3.2 10^{-9}	2.1 10^{-9}	1.4 10^{-9}	1.1 10^{-9}
Ag-108m	1.27 10^{2} a	F	0.100	3.5 10^{-8}	0.050	2.8 10^{-8}	1.6 10^{-8}	1.0 10^{-8}	6.9 10^{-9}	6.1 10^{-9}
		M	0.100	3.3 10^{-8}	0.050	2.7 10^{-8}	1.7 10^{-8}	1.1 10^{-8}	8.6 10^{-9}	7.4 10^{-9}
		S	0.020	8.9 10^{-8}	0.010	8.7 10^{-8}	6.2 10^{-8}	4.4 10^{-8}	3.9 10^{-8}	3.7 10^{-8}
Ag-110m	250 d	F	0.100	3.5 10^{-8}	0.050	2.8 10^{-8}	1.5 10^{-8}	9.7 10^{-9}	6.3 10^{-9}	5.5 10^{-9}
		M	0.100	3.5 10^{-8}	0.050	2.8 10^{-8}	1.7 10^{-8}	1.2 10^{-8}	9.2 10^{-9}	7.6 10^{-9}
		S	0.020	4.6 10^{-8}	0.010	4.1 10^{-8}	2.6 10^{-8}	1.8 10^{-8}	1.5 10^{-8}	1.2 10^{-8}
Ag-111	7.45 d	F	0.100	4.8 10^{-9}	0.050	3.2 10^{-9}	1.4 10^{-9}	8.8 10^{-10}	4.8 10^{-10}	4.0 10^{-10}
		M	0.100	9.2 10^{-9}	0.050	6.6 10^{-9}	3.5 10^{-9}	2.4 10^{-9}	1.9 10^{-9}	1.5 10^{-9}
		S	0.020	9.9 10^{-9}	0.010	7.1 10^{-9}	3.8 10^{-9}	2.7 10^{-9}	2.1 10^{-9}	1.7 10^{-9}
Ag-112	3.12 h	F	0.100	9.8 10^{-10}	0.050	6.4 10^{-10}	2.8 10^{-10}	1.7 10^{-10}	9.1 10^{-11}	7.6 10^{-11}
		M	0.100	1.7 10^{-9}	0.050	1.1 10^{-9}	5.1 10^{-10}	3.2 10^{-10}	2.0 10^{-10}	1.6 10^{-10}
		S	0.020	1.8 10^{-9}	0.010	1.2 10^{-9}	5.4 10^{-10}	3.4 10^{-10}	2.1 10^{-10}	1.7 10^{-10}
Ag-115	0.333 h	F	0.100	1.6 10^{-10}	0.050	1.0 10^{-10}	4.6 10^{-11}	2.9 10^{-11}	1.7 10^{-11}	1.5 10^{-11}
		M	0.100	2.5 10^{-10}	0.050	1.7 10^{-10}	7.6 10^{-11}	4.9 10^{-11}	3.2 10^{-11}	2.7 10^{-11}
		S	0.020	2.7 10^{-10}	0.010	1.7 10^{-10}	8.0 10^{-11}	5.2 10^{-11}	3.4 10^{-11}	2.9 10^{-11}
Cadmium										
Cd-104	0.961 h	F	0.100	2.0 10^{-10}	0.050	1.7 10^{-10}	8.7 10^{-11}	5.2 10^{-11}	3.1 10^{-11}	2.4 10^{-11}
		M	0.100	2.6 10^{-10}	0.050	2.1 10^{-10}	1.1 10^{-10}	6.9 10^{-11}	4.2 10^{-11}	3.4 10^{-11}
		S	0.100	2.7 10^{-10}	0.050	2.2 10^{-10}	1.1 10^{-10}	7.0 10^{-11}	4.4 10^{-11}	3.5 10^{-11}
Cd-107	6.49 h	F	0.100	2.3 10^{-10}	0.050	1.7 10^{-10}	7.4 10^{-11}	4.6 10^{-11}	2.5 10^{-11}	2.1 10^{-11}
		M	0.100	5.2 10^{-10}	0.050	3.7 10^{-10}	2.0 10^{-10}	1.3 10^{-10}	8.8 10^{-11}	8.3 10^{-11}
		S	0.100	5.5 10^{-10}	0.050	3.9 10^{-10}	2.1 10^{-10}	1.4 10^{-10}	9.7 10^{-11}	7.7 10^{-11}
Cd-109	1.27 a	F	0.100	4.5 10^{-8}	0.050	3.7 10^{-8}	2.1 10^{-8}	1.4 10^{-8}	9.3 10^{-9}	8.1 10^{-9}
		M	0.100	3.0 10^{-8}	0.050	2.3 10^{-8}	1.4 10^{-8}	9.5 10^{-9}	7.8 10^{-9}	6.6 10^{-9}
		S	0.100	2.7 10^{-8}	0.050	2.1 10^{-8}	1.3 10^{-8}	8.9 10^{-9}	7.6 10^{-9}	6.2 10^{-9}
Cd-113	9.30 10^{15} a	F	0.100	2.6 10^{-7}	0.050	2.4 10^{-7}	1.7 10^{-7}	1.4 10^{-7}	1.2 10^{-7}	1.2 10^{-7}
		M	0.100	1.2 10^{-7}	0.050	1.0 10^{-7}	7.6 10^{-8}	6.1 10^{-8}	5.7 10^{-8}	5.5 10^{-8}
		S	0.100	7.8 10^{-8}	0.050	5.8 10^{-8}	4.1 10^{-8}	3.0 10^{-8}	2.7 10^{-8}	2.6 10^{-8}
Cd-113m	13.6 a	F	0.100	3.0 10^{-7}	0.050	2.7 10^{-7}	1.8 10^{-7}	1.3 10^{-7}	1.1 10^{-7}	1.1 10^{-7}
		M	0.100	1.4 10^{-7}	0.050	1.2 10^{-7}	8.1 10^{-8}	6.0 10^{-8}	5.3 10^{-8}	5.2 10^{-8}
		S	0.100	1.1 10^{-7}	0.050	8.4 10^{-8}	5.5 10^{-8}	3.9 10^{-8}	3.3 10^{-8}	3.1 10^{-8}
Cd-115	2.23 d	F	0.100	4.0 10^{-9}	0.050	2.6 10^{-9}	1.2 10^{-9}	7.5 10^{-10}	4.3 10^{-10}	3.5 10^{-10}
		M	0.100	6.7 10^{-9}	0.050	4.8 10^{-9}	2.4 10^{-9}	1.7 10^{-9}	1.2 10^{-9}	9.8 10^{-10}
		S	0.100	7.2 10^{-9}	0.050	5.1 10^{-9}	2.6 10^{-9}	1.8 10^{-9}	1.3 10^{-9}	1.1 10^{-9}
Cd-115m	44.6 d	F	0.100	4.6 10^{-8}	0.050	3.2 10^{-8}	1.5 10^{-8}	1.0 10^{-8}	6.4 10^{-9}	5.3 10^{-9}
		M	0.100	4.0 10^{-8}	0.050	2.5 10^{-8}	1.4 10^{-8}	9.4 10^{-9}	7.3 10^{-9}	6.2 10^{-9}
		S	0.100	3.9 10^{-8}	0.050	3.0 10^{-8}	1.7 10^{-8}	1.1 10^{-8}	8.9 10^{-9}	7.7 10^{-9}

TABLE B (continues)

Values of dose conversion factors *h(g)* ($Sv \cdot Bq^{-1}$) for inhaled radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Lung absorp-tion type	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
			f_1 for $g \leq 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Cd-117	2.49 h	F	0.100	7.4 10^{-10}	0.050	5.2 10^{-10}	2.4 10^{-10}	1.5 10^{-10}	8.1 10^{-11}	6.7 10^{-11}
		M	0.100	1.3 10^{-9}	0.050	9.3 10^{-10}	4.5 10^{-10}	2.9 10^{-10}	2.0 10^{-10}	1.6 10^{-10}
		S	0.100	1.4 10^{-9}	0.050	9.8 10^{-10}	4.8 10^{-10}	3.1 10^{-10}	2.1 10^{-10}	1.7 10^{-10}
Cd-117m	3.36 h	F	0.100	8.9 10^{-10}	0.050	6.7 10^{-10}	3.3 10^{-10}	2.0 10^{-10}	1.1 10^{-10}	9.4 10^{-11}
		M	0.100	1.5 10^{-9}	0.050	1.1 10^{-9}	5.5 10^{-10}	3.6 10^{-10}	2.4 10^{-10}	2.0 10^{-10}
		S	0.100	1.5 10^{-9}	0.050	1.1 10^{-9}	5.7 10^{-10}	3.8 10^{-10}	2.6 10^{-10}	2.1 10^{-10}
Indium										
In-109	4.20 h	F	0.040	2.6 10^{-10}	0.020	2.1 10^{-10}	1.0 10^{-10}	6.3 10^{-11}	3.6 10^{-11}	2.9 10^{-11}
		M	0.040	3.3 10^{-10}	0.020	2.6 10^{-10}	1.3 10^{-10}	8.4 10^{-11}	5.3 10^{-11}	4.2 10^{-11}
In-110	4.90 h	F	0.040	8.2 10^{-10}	0.020	7.1 10^{-10}	3.7 10^{-10}	2.3 10^{-10}	1.3 10^{-10}	1.1 10^{-10}
		M	0.040	9.9 10^{-10}	0.020	8.3 10^{-10}	4.4 10^{-10}	2.7 10^{-10}	1.6 10^{-10}	1.3 10^{-10}
In-110	1.15 h	F	0.040	3.0 10^{-10}	0.020	2.1 10^{-10}	9.9 10^{-11}	6.0 10^{-11}	3.5 10^{-11}	2.8 10^{-11}
		M	0.040	4.5 10^{-10}	0.020	3.1 10^{-10}	1.5 10^{-10}	9.2 10^{-11}	5.8 10^{-11}	4.7 10^{-11}
In-111	2.83 d	F	0.040	1.2 10^{-9}	0.020	8.6 10^{-10}	4.2 10^{-10}	2.6 10^{-10}	1.5 10^{-10}	1.3 10^{-10}
		M	0.040	1.5 10^{-9}	0.020	1.2 10^{-9}	6.2 10^{-10}	4.1 10^{-10}	2.9 10^{-10}	2.3 10^{-10}
In-112	0.240 h	F	0.040	4.4 10^{-11}	0.020	3.0 10^{-11}	1.3 10^{-11}	8.7 10^{-12}	5.4 10^{-12}	4.7 10^{-12}
		M	0.040	6.5 10^{-11}	0.020	4.4 10^{-11}	2.0 10^{-11}	1.3 10^{-11}	8.7 10^{-12}	7.4 10^{-12}
In-113m	1.66 h	F	0.040	1.0 10^{-10}	0.020	7.0 10^{-11}	3.2 10^{-11}	2.0 10^{-11}	1.2 10^{-11}	9.7 10^{-12}
		M	0.040	1.6 10^{-10}	0.020	1.1 10^{-10}	5.5 10^{-11}	3.6 10^{-11}	2.4 10^{-11}	2.0 10^{-11}
In-114m	49.5 d	F	0.040	1.2 10^{-7}	0.020	7.7 10^{-8}	3.4 10^{-8}	1.9 10^{-8}	1.1 10^{-8}	9.3 10^{-9}
		M	0.040	4.8 10^{-8}	0.020	3.3 10^{-8}	1.6 10^{-8}	1.0 10^{-8}	7.8 10^{-9}	6.1 10^{-9}
In-115	5.10 10^{15} a	F	0.040	8.3 10^{-7}	0.020	7.8 10^{-7}	5.5 10^{-7}	5.0 10^{-7}	4.2 10^{-7}	3.9 10^{-7}
		M	0.040	3.0 10^{-7}	0.020	2.8 10^{-7}	2.1 10^{-7}	1.9 10^{-7}	1.7 10^{-7}	1.6 10^{-7}
In-115m	4.49 h	F	0.040	2.8 10^{-10}	0.020	1.9 10^{-10}	8.4 10^{-11}	5.1 10^{-11}	2.8 10^{-11}	2.4 10^{-11}
		M	0.040	4.7 10^{-10}	0.020	3.3 10^{-10}	1.6 10^{-10}	1.0 10^{-10}	7.2 10^{-11}	5.9 10^{-11}
In-116m	0.902 h	F	0.040	2.5 10^{-10}	0.020	1.9 10^{-10}	9.2 10^{-11}	5.7 10^{-11}	3.4 10^{-11}	2.8 10^{-11}
		M	0.040	3.6 10^{-10}	0.020	2.7 10^{-10}	1.3 10^{-10}	8.5 10^{-11}	5.6 10^{-11}	4.5 10^{-11}
In-117	0.730 h	F	0.040	1.4 10^{-10}	0.020	9.7 10^{-11}	4.5 10^{-11}	2.8 10^{-11}	1.7 10^{-11}	1.5 10^{-11}
		M	0.040	2.3 10^{-10}	0.020	1.6 10^{-10}	7.5 10^{-11}	5.0 10^{-11}	3.5 10^{-11}	2.9 10^{-11}
In-117m	1.94 h	F	0.040	3.4 10^{-10}	0.020	2.3 10^{-10}	1.0 10^{-10}	6.2 10^{-11}	3.5 10^{-11}	2.9 10^{-11}
		M	0.040	6.0 10^{-10}	0.020	4.0 10^{-10}	1.9 10^{-10}	1.3 10^{-10}	8.7 10^{-11}	7.2 10^{-11}
In-119m	0.300 h	F	0.040	1.2 10^{-10}	0.020	7.3 10^{-11}	3.1 10^{-11}	2.0 10^{-11}	1.2 10^{-11}	1.0 10^{-11}
		M	0.040	1.8 10^{-10}	0.020	1.1 10^{-10}	4.9 10^{-11}	3.2 10^{-11}	2.0 10^{-11}	1.7 10^{-11}
Tin										
Sn-110	4.00 h	F	0.040	1.0 10^{-9}	0.020	7.6 10^{-10}	3.6 10^{-10}	2.2 10^{-10}	1.2 10^{-10}	9.9 10^{-11}
		M	0.040	1.5 10^{-9}	0.020	1.1 10^{-9}	5.1 10^{-10}	3.2 10^{-10}	1.9 10^{-10}	1.6 10^{-10}
Sn-111	0.588 h	F	0.040	7.7 10^{-11}	0.020	5.4 10^{-11}	2.6 10^{-11}	1.6 10^{-11}	9.4 10^{-12}	7.8 10^{-12}
		M	0.040	1.1 10^{-10}	0.020	8.0 10^{-11}	3.8 10^{-11}	2.5 10^{-11}	1.6 10^{-11}	1.3 10^{-11}
Sn-113	115 d	F	0.040	5.1 10^{-9}	0.020	3.7 10^{-9}	1.8 10^{-9}	1.1 10^{-9}	6.4 10^{-10}	5.4 10^{-10}
		M	0.040	1.3 10^{-8}	0.020	1.0 10^{-8}	5.8 10^{-9}	4.0 10^{-9}	3.2 10^{-9}	2.7 10^{-9}
Sn-117m	13.6 d	F	0.040	3.3 10^{-9}	0.020	2.2 10^{-9}	1.0 10^{-9}	6.1 10^{-10}	3.4 10^{-10}	2.8 10^{-10}
		M	0.040	1.0 10^{-8}	0.020	7.7 10^{-9}	4.6 10^{-9}	3.4 10^{-9}	3.1 10^{-9}	2.4 10^{-9}
Sn-119m	293 d	F	0.040	3.0 10^{-9}	0.020	2.2 10^{-9}	1.0 10^{-9}	6.0 10^{-10}	3.4 10^{-10}	2.8 10^{-10}
		M	0.040	1.0 10^{-8}	0.020	7.9 10^{-9}	4.7 10^{-9}	3.1 10^{-9}	2.6 10^{-9}	2.2 10^{-9}
Sn-121	1.13 d	F	0.040	7.7 10^{-10}	0.020	5.0 10^{-10}	2.2 10^{-10}	1.3 10^{-10}	7.0 10^{-11}	6.0 10^{-11}
		M	0.040	1.5 10^{-9}	0.020	1.1 10^{-9}	5.1 10^{-10}	3.6 10^{-10}	2.9 10^{-10}	2.3 10^{-10}
Sn-121m	55.0 a	F	0.040	6.9 10^{-9}	0.020	5.4 10^{-9}	2.8 10^{-9}	1.6 10^{-9}	9.4 10^{-10}	8.0 10^{-10}
		M	0.040	1.9 10^{-8}	0.020	1.5 10^{-8}	9.2 10^{-9}	6.4 10^{-9}	5.5 10^{-9}	4.5 10^{-9}
Sn-123	129 d	F	0.040	1.4 10^{-8}	0.020	9.9 10^{-9}	4.5 10^{-9}	2.6 10^{-9}	1.4 10^{-9}	1.2 10^{-9}
		M	0.040	4.0 10^{-8}	0.020	3.1 10^{-8}	1.8 10^{-8}	1.2 10^{-8}	9.5 10^{-9}	8.1 10^{-9}
Sn-123m	0.668 h	F	0.040	1.4 10^{-10}	0.020	8.9 10^{-11}	3.9 10^{-11}	2.5 10^{-11}	1.5 10^{-11}	1.3 10^{-11}
		M	0.040	2.3 10^{-10}	0.020	1.5 10^{-10}	7.0 10^{-11}	4.6 10^{-11}	3.2 10^{-11}	2.7 10^{-11}
Sn-125	9.64 d	F	0.040	1.2 10^{-8}	0.020	8.0 10^{-9}	3.5 10^{-9}	2.0 10^{-9}	1.1 10^{-9}	8.9 10^{-10}
		M	0.040	2.1 10^{-8}	0.020	1.5 10^{-8}	7.6 10^{-9}	5.0 10^{-9}	3.6 10^{-9}	3.1 10^{-9}
Sn-126	1.00 10^{5} a	F	0.040	7.3 10^{-8}	0.020	5.9 10^{-8}	3.2 10^{-8}	2.0 10^{-8}	1.3 10^{-8}	1.1 10^{-8}
		M	0.040	1.2 10^{-7}	0.020	1.0 10^{-7}	6.2 10^{-8}	4.1 10^{-8}	3.3 10^{-8}	2.8 10^{-8}
Sn-127	2.10 h	F	0.040	6.6 10^{-10}	0.020	4.7 10^{-10}	2.3 10^{-10}	1.4 10^{-10}	7.9 10^{-11}	6.5 10^{-11}
		M	0.040	1.0 10^{-9}	0.020	7.4 10^{-10}	3.7 10^{-10}	2.4 10^{-10}	1.6 10^{-10}	1.3 10^{-10}
Sn-128	0.985 h	F	0.040	5.1 10^{-10}	0.020	3.6 10^{-10}	1.7 10^{-10}	1.0 10^{-10}	6.1 10^{-11}	5.0 10^{-11}
		M	0.040	8.0 10^{-10}	0.020	5.5 10^{-10}	2.7 10^{-10}	1.7 10^{-10}	1.1 10^{-10}	9.2 10^{-11}
Antimony										
Sb-115	0.530 h	F	0.200	8.1 10^{-11}	0.100	5.9 10^{-11}	2.8 10^{-11}	1.7 10^{-11}	1.0 10^{-11}	8.5 10^{-12}
		M	0.020	1.2 10^{-10}	0.010	8.3 10^{-11}	4.0 10^{-11}	2.5 10^{-11}	1.6 10^{-11}	1.3 10^{-11}
		S	0.020	1.2 10^{-10}	0.010	8.6 10^{-11}	4.1 10^{-11}	2.6 10^{-11}	1.7 10^{-11}	1.4 10^{-11}

TABLE B (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for inhaled radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Lung absorption type	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
			f_1 for $g \le 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Sb-116	0.263 h	F	0.200	$8.4\ 10^{-11}$	0.100	$6.2\ 10^{-11}$	$3.0\ 10^{-11}$	$1.9\ 10^{-11}$	$1.1\ 10^{-11}$	$9.1\ 10^{-12}$
		M	0.020	$1.1\ 10^{-10}$	0.010	$8.2\ 10^{-11}$	$4.0\ 10^{-11}$	$2.5\ 10^{-11}$	$1.5\ 10^{-11}$	$1.3\ 10^{-11}$
		S	0.020	$1.2\ 10^{-10}$	0.010	$8.5\ 10^{-11}$	$4.1\ 10^{-11}$	$2.6\ 10^{-11}$	$1.6\ 10^{-11}$	$1.3\ 10^{-11}$
Sb-116m	1.00 h	F	0.200	$2.6\ 10^{-10}$	0.100	$2.1\ 10^{-10}$	$1.1\ 10^{-10}$	$6.6\ 10^{-11}$	$4.0\ 10^{-11}$	$3.2\ 10^{-11}$
		M	0.020	$3.6\ 10^{-10}$	0.010	$2.8\ 10^{-10}$	$1.5\ 10^{-10}$	$9.1\ 10^{-11}$	$5.9\ 10^{-11}$	$4.7\ 10^{-11}$
		S	0.020	$3.7\ 10^{-10}$	0.010	$2.9\ 10^{-10}$	$1.5\ 10^{-10}$	$9.4\ 10^{-11}$	$6.1\ 10^{-11}$	$4.9\ 10^{-11}$
Sb-117	2.80 h	F	0.200	$7.7\ 10^{-11}$	0.100	$6.0\ 10^{-11}$	$2.9\ 10^{-11}$	$1.8\ 10^{-11}$	$1.0\ 10^{-11}$	$8.5\ 10^{-12}$
		M	0.020	$1.2\ 10^{-10}$	0.010	$9.1\ 10^{-11}$	$4.6\ 10^{-11}$	$3.0\ 10^{-11}$	$2.0\ 10^{-11}$	$1.6\ 10^{-11}$
		S	0.020	$1.3\ 10^{-10}$	0.010	$9.5\ 10^{-11}$	$4.8\ 10^{-11}$	$3.1\ 10^{-11}$	$2.2\ 10^{-11}$	$1.7\ 10^{-11}$
Sb-118m	5.00 h	F	0.200	$7.3\ 10^{-10}$	0.100	$6.2\ 10^{-10}$	$3.3\ 10^{-10}$	$2.0\ 10^{-10}$	$1.2\ 10^{-10}$	$9.3\ 10^{-11}$
		M	0.020	$9.3\ 10^{-10}$	0.010	$7.6\ 10^{-10}$	$4.0\ 10^{-10}$	$2.5\ 10^{-10}$	$1.5\ 10^{-10}$	$1.2\ 10^{-10}$
		S	0.020	$9.5\ 10^{-10}$	0.010	$7.8\ 10^{-10}$	$4.1\ 10^{-10}$	$2.5\ 10^{-10}$	$1.5\ 10^{-10}$	$1.2\ 10^{-10}$
Sb-119	1.59 d	F	0.200	$2.7\ 10^{-10}$	0.100	$2.0\ 10^{-10}$	$9.4\ 10^{-11}$	$5.5\ 10^{-11}$	$2.9\ 10^{-11}$	$2.3\ 10^{-11}$
		M	0.020	$4.0\ 10^{-10}$	0.010	$2.8\ 10^{-10}$	$1.3\ 10^{-10}$	$7.9\ 10^{-11}$	$4.4\ 10^{-11}$	$3.5\ 10^{-11}$
		S	0.020	$4.1\ 10^{-10}$	0.010	$2.9\ 10^{-10}$	$1.4\ 10^{-10}$	$8.2\ 10^{-11}$	$4.5\ 10^{-11}$	$3.6\ 10^{-11}$
Sb-120	5.76 d	F	0.200	$4.1\ 10^{-9}$	0.100	$3.3\ 10^{-9}$	$1.8\ 10^{-9}$	$1.1\ 10^{-9}$	$6.7\ 10^{-10}$	$5.5\ 10^{-10}$
		M	0.020	$6.3\ 10^{-9}$	0.010	$5.0\ 10^{-9}$	$2.8\ 10^{-9}$	$1.8\ 10^{-9}$	$1.3\ 10^{-9}$	$1.0\ 10^{-9}$
		S	0.020	$6.6\ 10^{-9}$	0.010	$5.3\ 10^{-9}$	$2.9\ 10^{-9}$	$1.9\ 10^{-9}$	$1.4\ 10^{-9}$	$1.1\ 10^{-9}$
Sb-120	0.265 h	F	0.200	$4.6\ 10^{-11}$	0.100	$3.1\ 10^{-11}$	$1.4\ 10^{-11}$	$8.9\ 10^{-12}$	$5.4\ 10^{-12}$	$4.6\ 10^{-12}$
		M	0.020	$6.6\ 10^{-11}$	0.010	$4.4\ 10^{-11}$	$2.0\ 10^{-11}$	$1.3\ 10^{-11}$	$8.3\ 10^{-12}$	$7.0\ 10^{-12}$
		S	0.020	$6.8\ 10^{-11}$	0.010	$4.6\ 10^{-11}$	$2.1\ 10^{-11}$	$1.4\ 10^{-11}$	$8.7\ 10^{-12}$	$7.3\ 10^{-12}$
Sb-122	2.70 d	F	0.200	$4.2\ 10^{-9}$	0.100	$2.8\ 10^{-9}$	$1.4\ 10^{-9}$	$8.4\ 10^{-10}$	$4.4\ 10^{-10}$	$3.6\ 10^{-10}$
		M	0.020	$8.3\ 10^{-9}$	0.010	$5.7\ 10^{-9}$	$2.8\ 10^{-9}$	$1.8\ 10^{-9}$	$1.3\ 10^{-9}$	$1.0\ 10^{-9}$
		S	0.020	$8.8\ 10^{-9}$	0.010	$6.1\ 10^{-9}$	$3.0\ 19^{-9}$	$2.0\ 10^{-9}$	$1.4\ 10^{-9}$	$1.1\ 10^{-9}$
Sb-124	60.2 d	F	0.200	$1.2\ 10^{-8}$	0.100	$8.8\ 10^{-9}$	$4.3\ 10^{-9}$	$2.6\ 10^{-9}$	$1.6\ 10^{-9}$	$1.3\ 10^{-9}$
		M	0.020	$3.1\ 10^{-8}$	0.010	$2.4\ 10^{-8}$	$1.4\ 10^{-8}$	$9.6\ 10^{-9}$	$7.7\ 10^{-9}$	$6.4\ 10^{-9}$
		S	0.020	$3.9\ 10^{-8}$	0.010	$3.1\ 10^{-8}$	$1.8\ 10^{-8}$	$1.3\ 10^{-8}$	$1.0\ 10^{-8}$	$8.6\ 10^{-9}$
Sb-124m	0.337 h	F	0.200	$2.7\ 10^{-11}$	0.100	$1.9\ 10^{-11}$	$9.0\ 10^{-12}$	$5.6\ 10^{-12}$	$3.4\ 10^{-12}$	$2.8\ 10^{-12}$
		M	0.020	$4.3\ 10^{-11}$	0.010	$3.1\ 10^{-11}$	$1.5\ 10^{-11}$	$9.6\ 10^{-12}$	$6.5\ 10^{-12}$	$5.4\ 10^{-12}$
		S	0.020	$4.6\ 10^{-11}$	0.010	$3.3\ 10^{-11}$	$1.6\ 10^{-11}$	$1.0\ 10^{-11}$	$7.2\ 10^{-12}$	$5.9\ 10^{-12}$
Sb-125	2.77 a	F	0.200	$8.7\ 10^{-9}$	0.100	$6.8\ 10^{-9}$	$3.7\ 10^{-9}$	$2.3\ 10^{-9}$	$1.5\ 10^{-9}$	$1.4\ 10^{-9}$
		M	0.020	$2.0\ 18^{-8}$	0.010	$1.6\ 10^{-8}$	$1.0\ 10^{-8}$	$6.8\ 10^{-9}$	$5.8\ 10^{-9}$	$4.8\ 10^{-9}$
		S	0.020	$4.2\ 10^{-8}$	0.010	$3.8\ 10^{-8}$	$2.4\ 10^{-8}$	$1.6\ 10^{-8}$	$1.4\ 10^{-8}$	$1.2\ 10^{-8}$
Sb-126	12.4 d	F	0.200	$8.8\ 10^{-9}$	0.100	$6.6\ 10^{-9}$	$3.3\ 10^{-9}$	$2.1\ 10^{-9}$	$1.2\ 10^{-9}$	$1.0\ 10^{-9}$
		M	0.020	$1.7\ 10^{-8}$	0.010	$1.3\ 10^{-8}$	$7.4\ 10^{-9}$	$5.1\ 10^{-9}$	$3.5\ 10^{-9}$	$2.8\ 10^{-9}$
		S	0.020	$1.9\ 10^{-8}$	0.010	$1.5\ 10^{-8}$	$8.2\ 10^{-9}$	$5.0\ 10^{-9}$	$4.0\ 10^{-9}$	$3.2\ 10^{-9}$
Sb-126m	0.317 h	F	0.200	$1.2\ 10^{-10}$	0.100	$8.2\ 10^{-11}$	$3.8\ 10^{-11}$	$2.4\ 10^{-11}$	$1.5\ 10^{-11}$	$1.2\ 10^{-11}$
		M	0.020	$1.7\ 10^{-10}$	0.010	$1.2\ 10^{-10}$	$5.5\ 10^{-11}$	$3.5\ 10^{-11}$	$2.3\ 10^{-11}$	$1.9\ 10^{-11}$
		S	0.020	$1.8\ 10^{-10}$	0.010	$1.2\ 10^{-10}$	$5.7\ 10^{-11}$	$3.7\ 10^{-11}$	$2.4\ 10^{-11}$	$2.0\ 10^{-11}$
Sb-127	3.85 d	F	0.200	$5.1\ 10^{-9}$	0.100	$3.5\ 10^{-9}$	$1.6\ 10^{-9}$	$9.7\ 10^{-10}$	$5.2\ 10^{-10}$	$4.3\ 10^{-10}$
		M	0.020	$1.0\ 10^{-8}$	0.010	$7.3\ 10^{-9}$	$3.9\ 10^{-9}$	$2.7\ 10^{-9}$	$2.1\ 10^{-9}$	$1.7\ 10^{-9}$
		S	0.020	$1.1\ 10^{-8}$	0.010	$7.9\ 10^{-9}$	$4.2\ 10^{-9}$	$3.0\ 10^{-9}$	$2.3\ 10^{-9}$	$1.9\ 10^{-9}$
Sb-128	9.01 h	F	0.200	$2.1\ 10^{-9}$	0.100	$1.7\ 10^{-9}$	$8.3\ 10^{-10}$	$5.1\ 10^{-10}$	$2.9\ 10^{-10}$	$2.3\ 10^{-10}$
		M	0.020	$3.3\ 10^{-9}$	0.010	$2.5\ 10^{-9}$	$1.2\ 10^{-9}$	$7.9\ 10^{-10}$	$5.0\ 10^{-10}$	$4.0\ 10^{-10}$
		S	0.020	$3.4\ 10^{-9}$	0.010	$2.6\ 10^{-9}$	$1.3\ 10^{-9}$	$8.3\ 10^{-10}$	$5.2\ 10^{-10}$	$4.2\ 10^{-10}$
Sb-128	0.173 h	F	0.200	$9.8\ 10^{-11}$	0.100	$6.9\ 10^{-11}$	$3.2\ 10^{-11}$	$2.0\ 10^{-11}$	$1.2\ 10^{-11}$	$1.0\ 10^{-11}$
		M	0.020	$1.3\ 10^{-10}$	0.010	$9.2\ 10^{-11}$	$4.3\ 10^{-11}$	$2.7\ 10^{-11}$	$1.7\ 10^{-11}$	$1.4\ 10^{-11}$
		S	0.020	$1.4\ 10^{-10}$	0.010	$9.4\ 10^{-11}$	$4.4\ 10^{-11}$	$2.8\ 10^{-11}$	$1.8\ 10^{-11}$	$1.5\ 10^{-11}$
Sb-129	4.32 h	F	0.200	$1.1\ 10^{-9}$	0.100	$8.2\ 10^{-10}$	$3.8\ 10^{-10}$	$2.3\ 10^{-10}$	$1.3\ 10^{-10}$	$1.0\ 10^{-10}$
		M	0.020	$2.0\ 10^{-9}$	0.010	$1.4\ 10^{-9}$	$6.8\ 10^{-10}$	$4.4\ 10^{-10}$	$2.9\ 10^{-10}$	$2.3\ 10^{-10}$
		S	0.020	$2.1\ 10^{-9}$	0.010	$1.5\ 10^{-9}$	$7.2\ 10^{-10}$	$4.6\ 10^{-10}$	$3.0\ 10^{-10}$	$2.5\ 10^{-10}$
Sb-130	0.667 h	F	0.200	$3.0\ 10^{-10}$	0.100	$2.2\ 10^{-10}$	$1.1\ 10^{-10}$	$6.6\ 10^{-11}$	$4.0\ 10^{-11}$	$3.3\ 10^{-11}$
		M	0.020	$4.5\ 10^{-10}$	0.010	$3.2\ 10^{-10}$	$1.6\ 10^{-10}$	$9.8\ 10^{-11}$	$6.3\ 10^{-11}$	$5.1\ 10^{-11}$
		S	0.020	$4.6\ 10^{-10}$	0.010	$3.3\ 10^{-10}$	$1.6\ 10^{-10}$	$1.0\ 10^{-10}$	$6.5\ 10^{-11}$	$5.3\ 10^{-11}$
Sb-131	0.383 h	F	0.200	$3.5\ 10^{-10}$	0.100	$2.8\ 10^{-10}$	$1.4\ 10^{-10}$	$7.7\ 10^{-11}$	$4.6\ 10^{-11}$	$3.5\ 10^{-11}$
		M	0.020	$3.9\ 10^{-10}$	0.010	$2.6\ 10^{-10}$	$1.3\ 10^{-10}$	$8.0\ 10^{-11}$	$5.3\ 10^{-11}$	$4.4\ 10^{-11}$
		S	0.020	$3.8\ 10^{-10}$	0.010	$2.6\ 10^{-10}$	$1.2\ 10^{-10}$	$7.9\ 10^{-11}$	$5.3\ 10^{-11}$	$4.4\ 10^{-11}$
Tellurium										
Te-116	2.49 h	F	0.600	$5.3\ 10^{-10}$	0.300	$4.2\ 10^{-10}$	$2.1\ 10^{-10}$	$1.3\ 10^{-10}$	$7.2\ 10^{-11}$	$5.8\ 10^{-11}$
		M	0.200	$8.6\ 10^{-10}$	0.100	$6.4\ 10^{-10}$	$3.2\ 10^{-10}$	$2.0\ 10^{-10}$	$1.3\ 10^{-10}$	$1.0\ 10^{-10}$
		S	0.020	$9.1\ 10^{-10}$	0.010	$6.7\ 10^{-10}$	$3.3\ 10^{-10}$	$2.1\ 10^{-10}$	$1.4\ 10^{-10}$	$1.1\ 10^{-10}$
Te-121	17.0 d	F	0.600	$1.7\ 10^{-9}$	0.300	$1.4\ 10^{-9}$	$7.2\ 10^{-10}$	$4.6\ 10^{-10}$	$2.9\ 10^{-10}$	$2.4\ 10^{-10}$
		M	0.200	$2.3\ 10^{-9}$	0.100	$1.9\ 10^{-9}$	$1.0\ 10^{-9}$	$6.8\ 10^{-10}$	$4.7\ 10^{-10}$	$3.8\ 10^{-10}$
		S	0.020	$2.4\ 10^{-9}$	0.010	$2.0\ 10^{-9}$	$1.1\ 10^{-9}$	$7.2\ 10^{-10}$	$5.1\ 10^{-10}$	$4.1\ 10^{-10}$

TABLE B (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for inhaled radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Lung absorption type	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
			f_1 for $g \le 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Te-121m	154 d	F	0.600	1.4 10^{-8}	0.300	1.0 10^{-8}	5.3 10^{-9}	3.3 10^{-9}	2.1 10^{-9}	1.8 10^{-9}
		M	0.200	1.9 10^{-8}	0.100	1.5 10^{-8}	8.8 10^{-9}	6.1 10^{-9}	5.1 10^{-9}	4.2 10^{-9}
		S	0.020	2.3 10^{-8}	0.010	1.9 10^{-8}	1.2 10^{-8}	8.1 10^{-9}	6.9 10^{-9}	5.7 10^{-9}
Te-123	1.00 10^{13} a	F	0.600	1.1 10^{-8}	0.300	9.1 10^{-9}	6.2 10^{-9}	4.8 10^{-9}	4.0 10^{-9}	3.9 10^{-9}
		M	0.200	5.6 10^{-9}	0.100	4.4 10^{-9}	3.0 10^{-9}	2.3 10^{-9}	2.0 10^{-9}	1.9 10^{-9}
		S	0.020	5.3 10^{-9}	0.010	5.0 10^{-9}	3.5 10^{-9}	2.4 10^{-9}	2.1 10^{-9}	2.0 10^{-9}
Te-123m	120 d	F	0.600	9.8 10^{-9}	0.300	6.8 10^{-9}	3.4 10^{-9}	1.9 10^{-9}	1.1 10^{-9}	9.5 10^{-10}
		M	0.200	1.8 10^{-8}	0.100	1.3 10^{-8}	8.0 10^{-9}	5.7 10^{-9}	5.0 10^{-9}	4.0 10^{-9}
		S	0.020	2.0 10^{-8}	0.010	1.6 10^{-8}	9.8 10^{-9}	7.1 10^{-9}	6.3 10^{-9}	5.1 10^{-9}
Te-125m	58.0 d	F	0.600	6.2 10^{-9}	0.300	4.2 10^{-9}	2.0 10^{-9}	1.1 10^{-9}	6.1 10^{-10}	5.1 10^{-10}
		M	0.200	1.5 10^{-8}	0.100	1.1 10^{-8}	6.6 10^{-9}	4.8 10^{-9}	4.3 10^{-9}	3.4 10^{-9}
		S	0.020	1.7 10^{-8}	0.010	1.3 10^{-8}	7.8 10^{-9}	5.8 10^{-9}	5.3 10^{-9}	4.2 10^{-9}
Te-127	9.35 h	F	0.600	4.3 10^{-10}	0.300	3.2 10^{-10}	1.4 10^{-10}	8.5 10^{-11}	4.5 10^{-11}	3.9 10^{-11}
		M	0.200	1.0 10^{-9}	0.100	7.3 10^{-10}	3.6 10^{-10}	2.4 10^{-10}	1.6 10^{-10}	1.3 10^{-10}
		S	0.020	1.2 10^{-9}	0.010	7.9 10^{-10}	3.9 10^{-10}	2.6 10^{-10}	1.7 10^{-10}	1.4 10^{-10}
Te-127m	109 d	F	0.600	2.1 10^{-8}	0.300	1.4 10^{-8}	6.5 10^{-9}	3.5 10^{-9}	2.0 10^{-9}	1.5 10^{-9}
		M	0.200	3.5 10^{-8}	0.100	2.6 10^{-8}	1.5 10^{-8}	1.1 10^{-8}	9.2 10^{-9}	7.4 10^{-9}
		S	0.020	4.1 10^{-8}	0.010	3.3 10^{-8}	2.0 10^{-8}	1.4 10^{-8}	1.2 10^{-8}	9.8 10^{-9}
Te-129	1.16 h	F	0.600	1.8 10^{-10}	0.300	1.2 10^{-10}	5.1 10^{-11}	3.2 10^{-11}	1.9 10^{-11}	1.6 10^{-11}
		M	0.200	3.3 10^{-10}	0.100	2.2 10^{-10}	9.9 10^{-11}	6.5 10^{-11}	4.4 10^{-11}	3.7 10^{-11}
		S	0.020	3.5 10^{-10}	0.010	2.3 10^{-10}	1.0 10^{-10}	6.9 10^{-11}	4.7 10^{-11}	3.9 10^{-11}
Te-129m	33.6 d	F	0.600	2.0 10^{-8}	0.300	1.3 10^{-8}	5.8 10^{-9}	3.1 10^{-9}	1.7 10^{-9}	1.3 10^{-9}
		M	0.200	3.5 10^{-8}	0.100	2.6 10^{-8}	1.4 10^{-8}	9.8 10^{-9}	8.0 10^{-9}	6.6 10^{-9}
		S	0.020	3.8 10^{-8}	0.010	2.9 10^{-8}	1.7 10^{-8}	1.2 10^{-8}	9.6 10^{-9}	7.9 10^{-9}
Te-131	0.417 h	F	0.600	2.3 10^{-10}	0.300	2.0 10^{-10}	9.9 10^{-11}	5.3 10^{-11}	3.3 10^{-11}	2.3 10^{-11}
		M	0.200	2.6 10^{-10}	0.100	1.7 10^{-10}	8.1 10^{-11}	5.2 10^{-11}	3.5 10^{-11}	2.8 10^{-11}
		S	0.020	2.4 10^{-10}	0.010	1.6 10^{-10}	7.4 10^{-11}	4.9 10^{-11}	3.3 10^{-11}	2.8 10^{-11}
Te-131m	1.25 d	F	0.600	8.7 10^{-9}	0.300	7.6 10^{-9}	3.9 10^{-9}	2.0 10^{-9}	1.2 10^{-9}	8.6 10^{-10}
		M	0.200	7.9 10^{-9}	0.100	5.8 10^{-9}	3.0 10^{-9}	1.9 10^{-9}	1.2 10^{-9}	9.4 10^{-10}
		S	0.020	7.0 10^{-9}	0.010	5.1 10^{-9}	2.6 10^{-9}	1.8 10^{-9}	1.1 10^{-9}	9.1 10^{-10}
Te-132	3.26 d	F	0.600	2.2 10^{-8}	0.300	1.8 10^{-8}	8.5 10^{-9}	4.2 10^{-9}	2.6 10^{-9}	1.8 10^{-9}
		M	0.200	1.6 10^{-8}	0.100	1.3 10^{-8}	6.4 10^{-9}	4.0 10^{-9}	2.6 10^{-9}	2.0 10^{-9}
		S	0.020	1.5 10^{-8}	0.010	1.1 10^{-8}	5.8 10^{-9}	3.8 10^{-9}	2.5 10^{-9}	2.0 10^{-9}
Te-133	0.207 h	F	0.600	2.4 10^{-10}	0.300	2.1 10^{-10}	9.6 10^{-11}	4.6 10^{-11}	2.8 10^{-11}	1.9 10^{-11}
		M	0.200	2.0 10^{-10}	0.100	1.3 10^{-10}	6.1 10^{-11}	3.8 10^{-11}	2.4 10^{-11}	2.0 10^{-11}
		S	0.020	1.7 10^{-10}	0.010	1.2 10^{-10}	5.4 10^{-11}	3.5 10^{-11}	2.2 10^{-11}	1.9 10^{-11}
Te-133m	0.923 h	F	0.600	1.0 10^{-9}	0.300	8.9 10^{-10}	4.1 10^{-10}	2.0 10^{-10}	1.2 10^{-10}	8.1 10^{-11}
		M	0.200	8.5 10^{-10}	0.100	5.8 10^{-10}	2.8 10^{-10}	1.7 10^{-10}	1.1 10^{-10}	8.7 10^{-11}
		S	0.020	7.4 10^{-10}	0.010	5.1 10^{-10}	2.5 10^{-10}	1.6 10^{-10}	1.0 10^{-10}	8.4 10^{-11}
Te-134	0.696 h	F	0.600	4.7 10^{-10}	0.300	3.7 10^{-10}	1.8 10^{-10}	1.0 10^{-10}	6.0 10^{-11}	4.7 10^{-11}
		M	0.200	5.5 10^{-10}	0.100	3.9 10^{-10}	1.9 10^{-10}	1.2 10^{-10}	8.1 10^{-11}	6.6 10^{-11}
		S	0.020	5.6 10^{-10}	0.010	4.0 10^{-10}	1.9 10^{-10}	1.3 10^{-10}	8.4 10^{-11}	6.8 10^{-11}
Iodine										
I-120	1.35 h	F	1.000	1.3 10^{-9}	1.000	1.0 10^{-9}	4.8 10^{-10}	2.3 10^{-10}	1.4 10^{-10}	1.0 10^{-10}
		M	0.200	1.1 10^{-9}	0.100	7.3 10^{-10}	3.4 10^{-10}	2.1 10^{-10}	1.3 10^{-10}	1.0 10^{-10}
		S	0.020	1.0 10^{-9}	0.010	6.9 10^{-10}	3.2 10^{-10}	2.0 10^{-10}	1.2 10^{-10}	1.0 10^{-10}
I-120m	0.883 h	F	1.000	8.6 10^{-10}	1.000	6.9 10^{-10}	3.3 10^{-10}	1.8 10^{-10}	1.1 10^{-10}	8.2 10^{-11}
		M	0.200	8.2 10^{-10}	0.100	5.9 10^{-10}	2.9 10^{-10}	1.8 10^{-10}	1.1 10^{-10}	8.7 10^{-11}
		S	0.020	8.2 10^{-10}	0.010	5.8 10^{-10}	2.8 10^{-10}	1.8 10^{-10}	1.1 10^{-10}	8.8 10^{-11}
I-121	2.12 h	F	1.000	2.3 10^{-10}	1.000	2.1 10^{-10}	1.1 10^{-10}	6.0 10^{-11}	3.8 10^{-11}	2.7 10^{-11}
		M	0.200	2.1 10^{-10}	0.100	1.5 10^{-10}	7.8 10^{-11}	4.9 10^{-11}	3.2 10^{-11}	2.5 10^{-11}
		S	0.020	1.9 10^{-10}	0.010	1.4 10^{-10}	7.0 10^{-11}	4.5 10^{-11}	3.0 10^{-11}	2.4 10^{-11}
I-123	13.2 h	F	1.000	8.7 10^{-10}	1.000	7.9 10^{-10}	3.8 10^{-10}	1.8 10^{-10}	1.1 10^{-10}	7.4 10^{-11}
		M	0.200	5.3 10^{-10}	0.100	3.9 10^{-10}	2.0 10^{-10}	1.2 10^{-10}	8.2 10^{-11}	6.4 10^{-11}
		S	0.020	4.3 10^{-10}	0.010	3.2 10^{-10}	1.7 10^{-10}	1.1 10^{-10}	7.6 10^{-11}	6.0 10^{-11}
I-124	4.18 d	F	1.000	4.7 10^{-8}	1.000	4.5 10^{-8}	2.2 10^{-8}	1.1 10^{-8}	6.7 10^{-9}	4.4 10^{-9}
		M	0.200	1.4 10^{-8}	0.100	9.3 10^{-9}	4.6 10^{-9}	2.5 10^{-9}	1.6 10^{-9}	1.2 10^{-9}
		S	0.020	6.2 10^{-9}	0.010	4.4 10^{-9}	2.2 10^{-9}	1.4 10^{-9}	9.4 10^{-10}	7.7 10^{-10}
I-125	60.1 d	F	1.000	2.0 10^{-8}	1.000	2.3 10^{-8}	1.5 10^{-8}	1.1 10^{-8}	7.2 10^{-9}	5.1 10^{-9}
		M	0.200	6.9 10^{-9}	0.100	5.6 10^{-9}	3.6 10^{-9}	2.6 10^{-9}	1.8 10^{-9}	1.4 10^{-9}
		S	0.020	2.4 10^{-9}	0.010	1.8 10^{-9}	1.0 10^{-9}	6.7 10^{-10}	4.8 10^{-10}	3.8 10^{-10}
I-126	13.0 d	F	1.000	8.1 10^{-8}	1.000	8.3 10^{-8}	4.5 10^{-8}	2.4 10^{-8}	1.5 10^{-8}	9.8 10^{-9}
		M	0.200	2.4 10^{-8}	0.100	1.7 10^{-8}	9.5 10^{-9}	5.5 10^{-9}	3.8 10^{-9}	2.7 10^{-9}
		S	0.020	8.3 10^{-9}	0.010	5.9 10^{-9}	3.3 10^{-9}	2.2 10^{-9}	1.8 10^{-9}	1.4 10^{-9}

TABLE B (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for inhaled radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Lung absorption type	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
			f_1 for $g \le 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
I-128	0.416 h	F	1.000	$1.5\ 10^{-10}$	1.000	$1.1\ 10^{-10}$	$4.7\ 10^{-11}$	$2.7\ 10^{-11}$	$1.6\ 10^{-11}$	$1.3\ 10^{-11}$
		M	0.200	$1.9\ 10^{-10}$	0.100	$1.2\ 10^{-10}$	$5.3\ 10^{-11}$	$3.4\ 10^{-11}$	$2.2\ 10^{-11}$	$1.9\ 10^{-11}$
		S	0.020	$1.9\ 10^{-10}$	0.010	$1.2\ 10^{-10}$	$5.4\ 10^{-11}$	$3.5\ 10^{-11}$	$2.3\ 10^{-11}$	$2.0\ 10^{-11}$
I-129	$1.57\ 10^{7}$ a	F	1.000	$7.2\ 10^{-8}$	1.000	$8.6\ 10^{-8}$	$6.1\ 10^{-8}$	$6.7\ 10^{-8}$	$4.6\ 10^{-8}$	$3.6\ 10^{-8}$
		M	0.200	$3.6\ 10^{-8}$	0.100	$3.3\ 10^{-8}$	$2.4\ 10^{-8}$	$2.4\ 10^{-8}$	$1.9\ 10^{-8}$	$1.5\ 10^{-8}$
		S	0.020	$2.9\ 10^{-8}$	0.010	$2.6\ 10^{-8}$	$1.8\ 10^{-8}$	$1.3\ 10^{-8}$	$1.1\ 10^{-8}$	$9.8\ 10^{-9}$
I-130	12.4 h	F	1.000	$8.2\ 10^{-9}$	1.000	$7.4\ 10^{-9}$	$3.5\ 10^{-9}$	$1.6\ 10^{-9}$	$1.0\ 10^{-9}$	$6.7\ 10^{-10}$
		M	0.200	$4.3\ 10^{-9}$	0.100	$3.1\ 10^{-9}$	$1.5\ 10^{-9}$	$9.2\ 10^{-10}$	$5.8\ 10^{-10}$	$4.5\ 10^{-10}$
		S	0.020	$3.3\ 10^{-9}$	0.010	$2.4\ 10^{-9}$	$1.2\ 10^{-9}$	$7.9\ 10^{-10}$	$5.1\ 10^{-10}$	$4.1\ 10^{-10}$
I-131	8.04 d	F	1.000	$7.2\ 10^{-8}$	1.000	$7.2\ 10^{-8}$	$3.7\ 10^{-8}$	$1.9\ 10^{-8}$	$1.1\ 10^{-8}$	$7.4\ 10^{-9}$
		M	0.200	$2.2\ 10^{-8}$	0.100	$1.5\ 10^{-8}$	$8.2\ 10^{-9}$	$4.7\ 10^{-9}$	$3.4\ 10^{-9}$	$2.4\ 10^{-9}$
		S	0.020	$8.8\ 10^{-9}$	0.010	$6.2\ 10^{-9}$	$3.5\ 10^{-9}$	$2.4\ 10^{-9}$	$2.0\ 10^{-9}$	$1.6\ 10^{-9}$
I-132	2.30 h	F	1.000	$1.1\ 10^{-9}$	1.000	$9.6\ 10^{-10}$	$4.5\ 10^{-10}$	$2.2\ 10^{-10}$	$1.3\ 10^{-10}$	$9.4\ 10^{-11}$
		M	0.200	$9.9\ 10^{-10}$	0.100	$7.3\ 10^{-10}$	$3.6\ 10^{-10}$	$2.2\ 10^{-10}$	$1.4\ 10^{-10}$	$1.1\ 10^{-10}$
		S	0.020	$9.3\ 10^{-10}$	0.010	$6.8\ 10^{-10}$	$3.4\ 10^{-10}$	$2.1\ 10^{-10}$	$1.4\ 10^{-10}$	$1.1\ 10^{-10}$
I-132m	1.39 h	F	1.000	$9.6\ 10^{-10}$	1.000	$8.4\ 10^{-10}$	$4.0\ 10^{-10}$	$1.9\ 10^{-10}$	$1.2\ 10^{-10}$	$7.9\ 10^{-11}$
		M	0.200	$7.2\ 10^{-10}$	0.100	$5.3\ 10^{-10}$	$2.6\ 10^{-10}$	$1.6\ 10^{-10}$	$1.1\ 10^{-10}$	$8.7\ 10^{-11}$
		S	0.020	$6.6\ 10^{-10}$	0.010	$4.8\ 10^{-10}$	$2.4\ 10^{-10}$	$1.6\ 10^{-10}$	$1.1\ 10^{-10}$	$8.5\ 10^{-11}$
I-133	20.8 h	F	1.000	$1.9\ 10^{-8}$	1.000	$1.8\ 10^{-8}$	$8.3\ 10^{-9}$	$3.8\ 10^{-9}$	$2.2\ 10^{-9}$	$1.5\ 10^{-9}$
		M	0.200	$6.6\ 10^{-9}$	0.100	$4.4\ 10^{-9}$	$2.1\ 10^{-9}$	$1.2\ 10^{-9}$	$7.4\ 10^{-10}$	$5.5\ 10^{-10}$
		S	0.020	$3.8\ 10^{-9}$	0.010	$2.9\ 10^{-9}$	$1.4\ 10^{-9}$	$9.0\ 10^{-10}$	$5.3\ 10^{-10}$	$4.3\ 10^{-10}$
I-134	0.876 h	F	1.000	$4.6\ 10^{-10}$	1.000	$3.7\ 10^{-10}$	$1.8\ 10^{-10}$	$9.7\ 10^{-11}$	$5.9\ 10^{-11}$	$4.5\ 10^{-11}$
		M	0.200	$4.8\ 10^{-10}$	0.100	$3.4\ 10^{-10}$	$1.7\ 10^{-10}$	$1.0\ 10^{-10}$	$6.7\ 10^{-11}$	$5.4\ 10^{-11}$
		S	0.020	$4.8\ 10^{-10}$	0.010	$3.4\ 10^{-10}$	$1.7\ 10^{-10}$	$1.1\ 10^{-10}$	$6.8\ 10^{-11}$	$5.5\ 10^{-11}$
I-135	6.61 h	F	1.000	$4.1\ 10^{-9}$	1.000	$3.7\ 10^{-9}$	$1.7\ 10^{-9}$	$7.9\ 10^{-10}$	$4.8\ 10^{-10}$	$3.2\ 10^{-10}$
		M	0.200	$2.2\ 10^{-9}$	0.100	$1.6\ 10^{-9}$	$7.8\ 10^{-10}$	$4.7\ 10^{-10}$	$3.0\ 10^{-10}$	$2.4\ 10^{-10}$
		S	0.020	$1.8\ 10^{-9}$	0.010	$1.3\ 10^{-9}$	$6.5\ 10^{-10}$	$4.2\ 10^{-10}$	$2.7\ 10^{-10}$	$2.2\ 10^{-10}$
Caesium										
Cs-125	0.750 h	F	1.000	$1.2\ 10^{-10}$	1.000	$8.3\ 10^{-11}$	$3.9\ 10^{-11}$	$2.4\ 10^{-11}$	$1.4\ 10^{-11}$	$1.2\ 10^{-11}$
		M	0.200	$2.0\ 10^{-10}$	0.100	$1.4\ 10^{-10}$	$6.5\ 10^{-11}$	$4.2\ 10^{-11}$	$2.7\ 10^{-11}$	$2.2\ 10^{-11}$
		S	0.020	$2.1\ 10^{-10}$	0.010	$1.4\ 10^{-10}$	$6.8\ 10^{-11}$	$4.4\ 10^{-11}$	$2.8\ 10^{-11}$	$2.3\ 10^{-11}$
Cs-127	6.25 h	F	1.000	$1.6\ 10^{-10}$	1.000	$1.3\ 10^{-10}$	$6.9\ 10^{-11}$	$4.2\ 10^{-11}$	$2.5\ 10^{-11}$	$2.0\ 10^{-11}$
		M	0.200	$2.8\ 10^{-10}$	0.100	$2.2\ 10^{-10}$	$1.1\ 10^{-10}$	$7.3\ 10^{-11}$	$4.6\ 10^{-11}$	$3.6\ 10^{-11}$
		S	0.020	$3.0\ 10^{-10}$	0.010	$2.3\ 10^{-10}$	$1.2\ 10^{-10}$	$7.6\ 10^{-11}$	$4.8\ 10^{-11}$	$3.8\ 10^{-11}$
Cs-129	1.34 d	F	1.000	$3.4\ 10^{-10}$	1.000	$2.8\ 10^{-10}$	$1.4\ 10^{-10}$	$8.7\ 10^{-11}$	$5.2\ 10^{-11}$	$4.2\ 10^{-11}$
		M	0.200	$5.7\ 10^{-10}$	0.100	$4.6\ 10^{-10}$	$2.4\ 10^{-10}$	$1.5\ 10^{-10}$	$9.1\ 10^{-11}$	$7.3\ 10^{-11}$
		S	0.020	$6.3\ 10^{-10}$	0.010	$4.9\ 10^{-10}$	$2.5\ 10^{-10}$	$1.6\ 10^{-10}$	$9.7\ 10^{-11}$	$7.7\ 10^{-11}$
Cs-130	0.498 h	F	1.000	$8.3\ 10^{-11}$	1.000	$5.6\ 10^{-11}$	$2.5\ 10^{-11}$	$1.6\ 10^{-11}$	$9.4\ 10^{-12}$	$7.8\ 10^{-12}$
		M	0.200	$1.3\ 10^{-10}$	0.100	$8.7\ 10^{-11}$	$4.0\ 10^{-11}$	$2.5\ 10^{-11}$	$1.6\ 10^{-11}$	$1.4\ 10^{-11}$
		S	0.020	$1.4\ 10^{-10}$	0.010	$9.0\ 10^{-11}$	$4.1\ 10^{-11}$	$2.6\ 10^{-11}$	$1.7\ 10^{-11}$	$1.4\ 10^{-11}$
Cs-131	9.69 d	F	1.000	$2.4\ 10^{-10}$	1.000	$1.7\ 10^{-10}$	$8.4\ 10^{-11}$	$5.3\ 10^{-11}$	$3.2\ 10^{-11}$	$2.7\ 10^{-11}$
		M	0.200	$3.5\ 10^{-10}$	0.100	$2.6\ 10^{-10}$	$1.4\ 10^{-10}$	$8.5\ 10^{-11}$	$5.5\ 10^{-11}$	$4.4\ 10^{-11}$
		S	0.020	$3.8\ 10^{-10}$	0.010	$2.8\ 10^{-10}$	$1.4\ 10^{-10}$	$9.1\ 10^{-11}$	$5.9\ 10^{-11}$	$4.7\ 10^{-11}$
Cs-132	6.48 d	F	1.000	$1.5\ 10^{-9}$	1.000	$1.2\ 10^{-9}$	$6.4\ 10^{-10}$	$4.1\ 10^{-10}$	$2.7\ 10^{-10}$	$2.3\ 10^{-10}$
		M	0.200	$1.9\ 10^{-9}$	0.100	$1.5\ 10^{-9}$	$8.4\ 10^{-10}$	$5.4\ 10^{-10}$	$3.7\ 10^{-10}$	$2.9\ 10^{-10}$
		S	0.020	$2.0\ 10^{-9}$	0.010	$1.6\ 10^{-9}$	$8.7\ 10^{-10}$	$5.6\ 10^{-10}$	$3.8\ 10^{-10}$	$3.0\ 10^{-10}$
Cs-134	2.06 a	F	1.000	$1.1\ 10^{-8}$	1.000	$7.3\ 10^{-9}$	$5.2\ 10^{-9}$	$5.3\ 10^{-9}$	$6.3\ 10^{-9}$	$6.6\ 10^{-9}$
		M	0.200	$3.2\ 10^{-8}$	0.100	$2.6\ 10^{-8}$	$1.6\ 10^{-8}$	$1.2\ 10^{-8}$	$1.1\ 10^{-8}$	$9.1\ 10^{-9}$
		S	0.020	$7.0\ 10^{-8}$	0.010	$6.3\ 10^{-8}$	$4.1\ 10^{-8}$	$2.8\ 10^{-8}$	$2.3\ 10^{-8}$	$2.0\ 10^{-8}$
Cs-134m	2.90 h	F	1.000	$1.3\ 10^{-10}$	1.000	$8.6\ 10^{-11}$	$3.8\ 10^{-11}$	$2.5\ 10^{-11}$	$1.6\ 10^{-11}$	$1.4\ 10^{-11}$
		M	0.200	$3.3\ 10^{-10}$	0.100	$2.3\ 10^{-10}$	$1.2\ 10^{-10}$	$8.3\ 10^{-11}$	$6.6\ 10^{-11}$	$5.4\ 10^{-11}$
		S	0.020	$3.6\ 10^{-10}$	0.010	$2.5\ 10^{-10}$	$1.3\ 10^{-10}$	$9.2\ 10^{-11}$	$7.4\ 10^{-11}$	$6.0\ 10^{-11}$
Cs-135	$2.30\ 10^{6}$ a	F	1.000	$1.7\ 10^{-9}$	1.000	$9.9\ 10^{-10}$	$6.2\ 10^{-10}$	$6.1\ 10^{-10}$	$6.8\ 10^{-10}$	$6.9\ 10^{-10}$
		M	0.200	$1.2\ 10^{-8}$	0.100	$9.3\ 10^{-9}$	$5.7\ 10^{-9}$	$4.1\ 10^{-9}$	$3.8\ 10^{-9}$	$3.1\ 10^{-9}$
		S	0.020	$2.7\ 10^{-8}$	0.010	$2.4\ 10^{-8}$	$1.6\ 10^{-8}$	$1.1\ 10^{-8}$	$9.5\ 10^{-9}$	$8.6\ 10^{-9}$
Cs-135m	0.883 h	F	1.000	$9.2\ 10^{-11}$	1.000	$7.8\ 10^{-11}$	$4.1\ 10^{-11}$	$2.4\ 10^{-11}$	$1.5\ 10^{-11}$	$1.2\ 10^{-11}$
		M	0.200	$1.2\ 10^{-10}$	0.100	$9.9\ 10^{-11}$	$5.2\ 10^{-11}$	$3.2\ 10^{-11}$	$1.9\ 10^{-11}$	$1.5\ 10^{-11}$
		S	0.020	$1.2\ 10^{-10}$	0.010	$1.0\ 10^{-10}$	$5.3\ 10^{-11}$	$3.3\ 10^{-11}$	$2.0\ 10^{-11}$	$1.6\ 10^{-11}$
Cs-136	13.1 d	F	1.000	$7.3\ 10^{-9}$	1.000	$5.2\ 10^{-9}$	$2.9\ 10^{-9}$	$2.0\ 10^{-9}$	$1.4\ 10^{-9}$	$1.2\ 10^{-9}$
		M	0.200	$1.3\ 10^{-8}$	0.100	$1.0\ 10^{-8}$	$6.0\ 10^{-9}$	$3.7\ 10^{-9}$	$3.1\ 10^{-9}$	$2.5\ 10^{-9}$
		S	0.020	$1.5\ 10^{-8}$	0.010	$1.1\ 10^{-8}$	$5.7\ 10^{-9}$	$4.1\ 10^{-9}$	$3.5\ 10^{-9}$	$2.8\ 10^{-9}$
Cs-137	30.0 a	F	1.000	$8.8\ 10^{-9}$	1.000	$5.4\ 10^{-9}$	$3.6\ 10^{-9}$	$3.7\ 10^{-9}$	$4.4\ 10^{-9}$	$4.6\ 10^{-9}$
		M	0.200	$3.6\ 10^{-8}$	0.100	$2.9\ 10^{-8}$	$1.8\ 10^{-8}$	$1.3\ 10^{-8}$	$1.1\ 10^{-8}$	$9.7\ 10^{-9}$
		S	0.020	$1.1\ 10^{-7}$	0.010	$1.0\ 10^{-7}$	$7.0\ 10^{-8}$	$4.8\ 10^{-8}$	$4.2\ 10^{-8}$	$3.9\ 10^{-8}$

TABLE B (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for inhaled radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Lung absorp-tion type	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
			f_1 for $g \leq 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Cs-138	0.536 h	F	1.000	2.6 10^{-10}	1.000	1.8 10^{-10}	8.1 10^{-11}	5.0 10^{-11}	2.9 10^{-11}	2.4 10^{-11}
		M	0.200	4.0 10^{-10}	0.100	2.7 10^{-10}	1.3 10^{-10}	7.8 10^{-11}	4.9 10^{-11}	4.1 10^{-11}
		S	0.020	4.2 10^{-10}	0.010	2.8 10^{-10}	1.3 10^{-10}	8.2 10^{-11}	5.1 10^{-11}	4.3 10^{-11}
Barium [8)]										
Ba-126	1.61 h	F	0.600	6.7 10^{-10}	0.200	5.2 10^{-10}	2.4 10^{-10}	1.4 10^{-10}	6.9 10^{-11}	7.4 10^{-11}
		M	0.200	1.0 10^{-9}	0.100	7.0 10^{-10}	3.2 10^{-10}	2.0 10^{-10}	1.2 10^{-10}	1.0 10^{-10}
		S	0.020	1.1 10^{-9}	0.010	7.2 10^{-10}	3.3 10^{-10}	2.1 10^{-10}	1.3 10^{-10}	1.1 10^{-10}
Ba-128	2.43 d	F	0.600	5.9 10^{-9}	0.200	5.4 10^{-9}	2.5 10^{-9}	1.4 10^{-9}	7.4 10^{-10}	7.6 10^{-10}
		M	0.200	1.1 10^{-8}	0.100	7.8 10^{-9}	3.7 10^{-9}	2.4 10^{-9}	1.5 10^{-9}	1.3 10^{-9}
		S	0.020	1.2 10^{-8}	0.010	8.3 10^{-9}	4.0 10^{-9}	2.6 10^{-9}	1.6 10^{-9}	1.4 10^{-9}
Ba-131	11.8 d	F	0.600	2.1 10^{-9}	0.200	1.4 10^{-9}	7.1 10^{-10}	4.7 10^{-10}	3.1 10^{-10}	2.2 10^{-10}
		M	0.200	3.7 10^{-9}	0.100	3.1 10^{-9}	1.6 10^{-9}	1.1 10^{-9}	9.7 10^{-10}	7.6 10^{-10}
		S	0.020	4.0 10^{-9}	0.010	3.0 10^{-9}	1.8 10^{-9}	1.3 10^{-9}	1.1 10^{-9}	8.7 10^{-10}
Ba-131m	0.243 h	F	0.600	2.7 10^{-11}	0.200	2.1 10^{-11}	1.0 10^{-11}	6.7 10^{-12}	4.7 10^{-12}	4.0 10^{-12}
		M	0.200	4.8 10^{-11}	0.100	3.3 10^{-11}	1.7 10^{-11}	1.2 10^{-11}	9.0 10^{-12}	7.4 10^{-12}
		S	0.020	5.0 10^{-11}	0.010	3.5 10^{-11}	1.8 10^{-11}	1.2 10^{-11}	9.5 10^{-12}	7.8 10^{-12}
Ba-133	10.7 a	F	0.600	1.1 10^{-8}	0.200	4.5 10^{-9}	2.6 10^{-9}	3.7 10^{-9}	6.0 10^{-9}	1.5 10^{-9}
		M	0.200	1.5 10^{-8}	0.100	1.0 10^{-8}	6.4 10^{-9}	5.1 10^{-9}	5.5 10^{-9}	3.1 10^{-9}
		S	0.020	3.2 10^{-8}	0.010	2.9 10^{-8}	2.0 10^{-8}	1.3 10^{-8}	1.1 10^{-8}	1.0 10^{-8}
Ba-133m	1.62 d	F	0.600	1.4 10^{-9}	0.200	1.1 10^{-9}	4.9 10^{-10}	3.1 10^{-10}	1.5 10^{-10}	1.8 10^{-10}
		M	0.200	3.0 10^{-9}	0.100	2.2 10^{-9}	1.0 10^{-9}	6.9 10^{-10}	5.2 10^{-10}	4.2 10^{-10}
		S	0.020	3.1 10^{-9}	0.010	2.4 10^{-9}	1.1 10^{-9}	7.6 10^{-10}	5.8 10^{-10}	4.6 10^{-10}
Ba-135m	1.20 d	F	0.600	1.1 10^{-9}	0.200	1.0 10^{-9}	4.6 10^{-10}	2.5 10^{-10}	1.2 10^{-10}	1.4 10^{-10}
		M	0.200	2.4 10^{-9}	0.100	1.8 10^{-9}	8.9 10^{-10}	5.4 10^{-10}	4.1 10^{-10}	3.3 10^{-10}
		S	0.020	2.7 10^{-9}	0.010	1.9 10^{-9}	8.6 10^{-10}	5.9 10^{-10}	4.5 10^{-10}	3.6 10^{-10}
Ba-139	1.38 h	F	0.600	3.3 10^{-10}	0.200	2.4 10^{-10}	1.1 10^{-10}	6.0 10^{-11}	3.1 10^{-11}	3.4 10^{-11}
		M	0.200	5.4 10^{-10}	0.100	3.5 10^{-10}	1.6 10^{-10}	1.0 10^{-10}	6.6 10^{-11}	5.6 10^{-11}
		S	0.020	5.7 10^{-10}	0.010	3.6 10^{-10}	1.6 10^{-10}	1.1 10^{-10}	7.0 10^{-11}	5.9 10^{-11}
Ba-140	12.7 d	F	0.600	1.4 10^{-8}	0.200	7.8 10^{-9}	3.6 10^{-9}	2.4 10^{-9}	1.6 10^{-9}	1.0 10^{-9}
		M	0.200	2.7 10^{-8}	0.100	2.0 10^{-8}	1.1 10^{-8}	7.6 10^{-9}	6.2 10^{-9}	5.1 10^{-9}
		S	0.020	2.9 10^{-8}	0.010	2.2 10^{-8}	1.2 10^{-8}	8.6 10^{-9}	7.1 10^{-9}	5.8 10^{-9}
Ba-141	0.305 h	F	0.600	1.9 10^{-10}	0.200	1.4 10^{-10}	6.4 10^{-11}	3.8 10^{-11}	2.1 10^{-11}	2.1 10^{-11}
		M	0.200	3.0 10^{-10}	0.100	2.0 10^{-10}	9.3 10^{-11}	5.9 10^{-11}	3.8 10^{-11}	3.2 10^{-11}
		S	0.020	3.2 10^{-10}	0.010	2.1 10^{-10}	9.7 10^{-11}	6.2 10^{-11}	4.0 10^{-11}	3.4 10^{-11}
Ba-142	0.177 h	F	0.600	1.3 10^{-10}	0.200	9.6 10^{-11}	4.5 10^{-11}	2.7 10^{-11}	1.6 10^{-11}	1.5 10^{-11}
		M	0.200	1.8 10^{-10}	0.100	1.3 10^{-10}	6.1 10^{-11}	3.9 10^{-11}	2.5 10^{-11}	2.1 10^{-11}
		S	0.020	1.9 10^{-10}	0.010	1.3 10^{-10}	6.2 10^{-11}	4.0 10^{-11}	2.6 10^{-11}	2.2 10^{-11}
Lanthanum										
La-131	0.983 h	F	0.005	1.2 10^{-10}	5.0 10^{-4}	8.7 10^{-11}	4.2 10^{-11}	2.6 10^{-11}	1.5 10^{-11}	1.3 10^{-11}
		M	0.005	1.8 10^{-10}	5.0 10^{-4}	1.3 10^{-10}	6.4 10^{-11}	4.1 10^{-11}	2.8 10^{-11}	2.3 10^{-11}
La-132	4.80 h	F	0.005	1.0 10^{-9}	5.0 10^{-4}	7.7 10^{-10}	3.7 10^{-10}	2.2 10^{-10}	1.2 10^{-10}	1.0 10^{-10}
		M	0.005	1.5 10^{-9}	5.0 10^{-4}	1.1 10^{-9}	5.4 10^{-10}	3.4 10^{-10}	2.0 10^{-10}	1.6 10^{-10}
La-135	19.5 h	F	0.005	1.0 10^{-10}	5.0 10^{-4}	7.7 10^{-11}	3.8 10^{-11}	2.3 10^{-11}	1.3 10^{-11}	1.0 10^{-11}
		M	0.005	1.3 10^{-10}	5.0 10^{-4}	1.0 10^{-10}	4.9 10^{-11}	3.0 10^{-11}	1.7 10^{-11}	1.4 10^{-11}
La-137	6.00 10^{4} a	F	0.005	2.5 10^{-8}	5.0 10^{-4}	2.3 10^{-8}	1.5 10^{-8}	1.1 10^{-8}	8.9 10^{-9}	8.7 10^{-9}
		M	0.005	8.6 10^{-9}	5.0 10^{-4}	8.1 10^{-9}	5.6 10^{-9}	4.0 10^{-9}	3.6 10^{-9}	3.6 10^{-9}
La-138	1.35 10^{11} a	F	0.005	3.7 10^{-7}	5.0 10^{-4}	3.5 10^{-7}	2.4 10^{-7}	1.8 10^{-7}	1.6 10^{-7}	1.5 10^{-7}
		M	0.005	1.3 10^{-7}	5.0 10^{-4}	1.2 10^{-7}	9.1 10^{-8}	6.8 10^{-8}	6.4 10^{-8}	6.4 10^{-8}
La-140	1.68 d	F	0.005	5.8 10^{-9}	5.0 10^{-4}	4.2 10^{-9}	2.0 10^{-9}	1.2 10^{-9}	6.9 10^{-10}	5.7 10^{-10}
		M	0.005	8.8 10^{-9}	5.0 10^{-4}	6.3 10^{-9}	3.1 10^{-9}	2.0 10^{-9}	1.3 10^{-9}	1.1 10^{-9}
La-141	3.93 h	F	0.005	8.6 10^{-10}	5.0 10^{-4}	5.5 10^{-10}	2.3 10^{-10}	1.4 10^{-10}	7.5 10^{-11}	6.3 10^{-11}
		M	0.005	1.4 10^{-9}	5.0 10^{-4}	9.3 10^{-10}	4.3 10^{-10}	2.8 10^{-10}	1.8 10^{-10}	1.5 10^{-10}
La-142	1.54 h	F	0.005	5.3 10^{-10}	5.0 10^{-4}	3.8 10^{-10}	1.8 10^{-10}	1.1 10^{-10}	6.3 10^{-11}	5.2 10^{-11}
		M	0.005	8.1 10^{-10}	5.0 10^{-4}	5.7 10^{-10}	2.7 10^{-10}	1.7 10^{-10}	1.1 10^{-10}	8.9 10^{-11}
La-143	0.237 h	F	0.005	1.4 10^{-10}	5.0 10^{-4}	8.6 10^{-11}	3.7 10^{-11}	2.3 10^{-11}	1.4 10^{-11}	1.2 10^{-11}
		M	0.005	2.1 10^{-10}	5.0 10^{-4}	1.3 10^{-10}	6.0 10^{-11}	3.9 10^{-11}	2.5 10^{-11}	2.1 10^{-11}
Cerium										
Ce-134	3.00 d	F	0.005	7.6 10^{-9}	5.0 10^{-4}	5.3 10^{-9}	2.3 10^{-9}	1.4 10^{-9}	7.7 10^{-10}	5.7 10^{-10}
		M	0.005	1.1 10^{-8}	5.0 10^{-4}	7.6 10^{-9}	3.7 10^{-9}	2.4 10^{-9}	1.5 10^{-9}	1.3 10^{-9}
		S	0.005	1.2 10^{-8}	5.0 10^{-4}	8.0 10^{-9}	3.8 10^{-9}	2.5 10^{-9}	1.6 10^{-9}	1.3 10^{-9}

[8)] The value of f_1 for 1 to 15 year olds for type F is 0.3.

TABLE B (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for inhaled radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Lung absorp-tion type	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
			f_1 for $g \le 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Ce-135	17.6 h	F	0.005	2.3 10^{-9}	5.0 10^{-4}	1.7 10^{-9}	8.5 10^{-10}	5.3 10^{-10}	3.0 10^{-10}	2.4 10^{-10}
		M	0.005	3.6 10^{-9}	5.0 10^{-4}	2.7 10^{-9}	1.4 10^{-9}	8.9 10^{-10}	5.9 10^{-10}	4.8 10^{-10}
		S	0.005	3.7 10^{-9}	5.0 10^{-4}	2.8 10^{-9}	1.4 10^{-9}	9.4 10^{-10}	6.3 10^{-10}	5.0 10^{-10}
Ce-137	9.00 h	F	0.005	7.5 10^{-11}	5.0 10^{-4}	5.6 10^{-11}	2.7 10^{-11}	1.6 10^{-11}	8.7 10^{-12}	7.0 10^{-12}
		M	0.005	1.1 10^{-10}	5.0 10^{-4}	7.6 10^{-11}	3.6 10^{-11}	2.2 10^{-11}	1.2 10^{-11}	9.8 10^{-12}
		S	0.005	1.1 10^{-10}	5.0 10^{-4}	7.8 10^{-11}	3.7 10^{-11}	2.3 10^{-11}	1.3 10^{-11}	1.0 10^{-11}
Ce-137m	1.43 d	F	0.005	1.6 10^{-9}	5.0 10^{-4}	1.1 10^{-9}	4.6 10^{-10}	2.8 10^{-10}	1.5 10^{-10}	1.2 10^{-10}
		M	0.005	3.1 10^{-9}	5.0 10^{-4}	2.2 10^{-9}	1.1 10^{-9}	6.7 10^{-10}	5.1 10^{-10}	4.1 10^{-10}
		S	0.005	3.3 10^{-9}	5.0 10^{-4}	2.3 10^{-9}	1.0 10^{-9}	7.3 10^{-10}	5.6 10^{-10}	4.4 10^{-10}
Ce-139	138 d	F	0.005	1.1 10^{-8}	5.0 10^{-4}	8.5 10^{-9}	4.5 10^{-9}	2.8 10^{-9}	1.8 10^{-9}	1.5 10^{-9}
		M	0.005	7.5 10^{-9}	5.0 10^{-4}	6.1 10^{-9}	3.6 10^{-9}	2.5 10^{-9}	2.1 10^{-9}	1.7 10^{-9}
		S	0.005	7.8 10^{-9}	5.0 10^{-4}	6.3 10^{-9}	3.9 10^{-9}	2.7 10^{-9}	2.4 10^{-9}	1.9 10^{-9}
Ce-141	32.5 d	F	0.005	1.1 10^{-8}	5.0 10^{-4}	7.3 10^{-9}	3.5 10^{-9}	2.0 10^{-9}	1.2 10^{-9}	9.3 10^{-10}
		M	0.005	1.4 10^{-8}	5.0 10^{-4}	1.1 10^{-8}	6.3 10^{-9}	4.6 10^{-9}	4.1 10^{-9}	3.2 10^{-9}
		S	0.005	1.6 10^{-8}	5.0 10^{-4}	1.2 10^{-8}	7.1 10^{-9}	5.3 10^{-9}	4.8 10^{-9}	3.8 10^{-9}
Ce-143	1.38 d	F	0.005	3.6 10^{-9}	5.0 10^{-4}	2.3 10^{-9}	1.0 10^{-9}	6.2 10^{-10}	3.3 10^{-10}	2.7 10^{-10}
		M	0.005	5.6 10^{-9}	5.0 10^{-4}	3.9 10^{-9}	1.9 10^{-9}	1.3 10^{-9}	9.3 10^{-10}	7.5 10^{-10}
		S	0.005	5.9 10^{-9}	5.0 10^{-4}	4.1 10^{-9}	2.1 10^{-9}	1.4 10^{-9}	1.0 10^{-9}	8.3 10^{-10}
Ce-144	284 d	F	0.005	3.6 10^{-7}	5.0 10^{-4}	2.7 10^{-7}	1.4 10^{-7}	7.8 10^{-8}	4.8 10^{-8}	4.0 10^{-8}
		M	0.005	1.9 10^{-7}	5.0 10^{-4}	1.6 10^{-7}	8.8 10^{-8}	5.5 10^{-8}	4.1 10^{-8}	3.6 10^{-8}
		S	0.005	2.1 10^{-7}	5.0 10^{-4}	1.8 10^{-7}	1.1 10^{-7}	7.3 10^{-8}	5.8 10^{-8}	5.3 10^{-8}
Praseodymium										
Pr-136	0.218 h	M	0.005	1.3 10^{-10}	5.0 10^{-4}	8.8 10^{-11}	4.2 10^{-11}	2.6 10^{-11}	1.6 10^{-11}	1.3 10^{-11}
		S	0.005	1.3 10^{-10}	5.0 10^{-4}	9.0 10^{-11}	4.3 10^{-11}	2.7 10^{-11}	1.7 10^{-11}	1.4 10^{-11}
Pr-137	1.28 h	M	0.005	1.8 10^{-10}	5.0 10^{-4}	1.3 10^{-10}	6.1 10^{-11}	3.9 10^{-11}	2.4 10^{-11}	2.0 10^{-11}
		S	0.005	1.9 10^{-10}	5.0 10^{-4}	1.3 10^{-10}	6.4 10^{-11}	4.0 10^{-11}	2.5 10^{-11}	2.1 10^{-11}
Pr-138m	2.10 h	M	0.005	5.9 10^{-10}	5.0 10^{-4}	4.5 10^{-10}	2.3 10^{-10}	1.4 10^{-10}	9.0 10^{-11}	7.2 10^{-11}
		S	0.005	6.0 10^{-10}	5.0 10^{-4}	4.7 10^{-10}	2.4 10^{-10}	1.5 10^{-10}	9.3 10^{-11}	7.4 10^{-11}
Pr-139	4.51 h	M	0.005	1.5 10^{-10}	5.0 10^{-4}	1.1 10^{-10}	5.5 10^{-11}	3.5 10^{-11}	2.3 10^{-11}	1.8 10^{-11}
		S	0.005	1.6 10^{-10}	5.0 10^{-4}	1.2 10^{-10}	5.7 10^{-11}	3.7 10^{-11}	2.4 10^{-11}	2.0 10^{-11}
Pr-142	19.1 h	M	0.005	5.3 10^{-9}	5.0 10^{-4}	3.5 10^{-9}	1.6 10^{-9}	1.0 10^{-9}	6.2 10^{-10}	5.2 10^{-10}
		S	0.005	5.5 10^{-9}	5.0 10^{-4}	3.7 10^{-9}	1.7 10^{-9}	1.1 10^{-9}	6.6 10^{-10}	5.5 10^{-10}
Pr-142m	0.243h	M	0.005	6.7 10^{-11}	5.0 10^{-4}	4.5 10^{-11}	2.0 10^{-11}	1.3 10^{-11}	7.9 10^{-12}	6.6 10^{-12}
		S	0.005	7.0 10^{-11}	5.0 10^{-4}	4.7 10^{-11}	2.2 10^{-11}	1.4 10^{-11}	8.4 10^{-12}	7.0 10^{-12}
Pr-143	13.6 d	M	0.005	1.2 10^{-8}	5.0 10^{-4}	8.4 10^{-9}	4.6 10^{-9}	3.2 10^{-9}	2.7 10^{-9}	2.2 10^{-9}
		S	0.005	1.3 10^{-8}	5.0 10^{-4}	9.2 10^{-9}	5.1 10^{-9}	3.6 10^{-9}	3.0 10^{-9}	2.4 10^{-9}
Pr-144	0.288 h	M	0.005	1.9 10^{-10}	5.0 10^{-4}	1.2 10^{-10}	5.0 10^{-11}	3.2 10^{-11}	2.1 10^{-11}	1.8 10^{-11}
		S	0.005	1.9 10^{-10}	5.0 10^{-4}	1.2 10^{-10}	5.2 10^{-11}	3.4 10^{-11}	2.1 10^{-11}	1.8 10^{-11}
Pr-145	5.98 h	M	0.005	1.6 10^{-9}	5.0 10^{-4}	1.0 10^{-9}	4.7 10^{-10}	3.0 10^{-10}	1.9 10^{-10}	1.6 10^{-10}
		S	0.005	1.6 10^{-9}	5.0 10^{-4}	1.1 10^{-9}	4.9 10^{-10}	3.2 10^{-10}	2.0 10^{-10}	1.7 10^{-10}
Pr-147	0.227 h	M	0.005	1.5 10^{-10}	5.0 10^{-4}	1.0 10^{-10}	4.8 10^{-11}	3.1 10^{-11}	2.1 10^{-11}	1.8 10^{-11}
		S	0.005	1.6 10^{-10}	5.0 10^{-4}	1.1 10^{-10}	5.0 10^{-11}	3.3 10^{-11}	2.2 10^{-11}	1.8 10^{-11}
Neodymium										
Nd-136	0.844 h	M	0.005	4.6 10^{-10}	5.0 10^{-4}	3.2 10^{-10}	1.6 10^{-10}	9.8 10^{-11}	6.3 10^{-11}	5.1 10^{-11}
		S	0.005	4.8 10^{-10}	5.0 10^{-4}	3.3 10^{-10}	1.6 10^{-10}	1.0 10^{-10}	6.6 10^{-11}	5.4 10^{-11}
Nd-138	5.04 h	M	0.005	2.3 10^{-9}	5.0 10^{-4}	1.7 10^{-9}	7.7 10^{-10}	4.8 10^{-10}	2.8 10^{-10}	2.3 10^{-10}
		S	0.005	2.4 10^{-9}	5.0 10^{-4}	1.8 10^{-9}	8.0 10^{-10}	5.0 10^{-10}	3.0 10^{-10}	2.5 10^{-10}
Nd-139	0.495 h	M	0.005	9.0 10^{-11}	5.0 10^{-4}	6.2 10^{-11}	3.0 10^{-11}	1.9 10^{-11}	1.2 10^{-11}	9.9 10^{-12}
		S	0.005	9.4 10^{-11}	5.0 10^{-4}	6.4 10^{-11}	3.1 10^{-11}	2.0 10^{-11}	1.3 10^{-11}	1.0 10^{-11}
Nd-139m	5.50 h	M	0.005	1.1 10^{-9}	5.0 10^{-4}	8.8 10^{-10}	4.5 10^{-10}	2.9 10^{-10}	1.8 10^{-10}	1.5 10^{-10}
		S	0.005	1.2 10^{-9}	5.0 10^{-4}	9.1 10^{-10}	4.6 10^{-10}	3.0 10^{-10}	1.9 10^{-10}	1.5 10^{-10}
Nd-141	2.49 h	M	0.005	4.1 10^{-11}	5.0 10^{-4}	3.1 10^{-11}	1.5 10^{-11}	9.6 10^{-12}	6.0 10^{-12}	4.8 10^{-12}
		S	0.005	4.3 10^{-11}	5.0 10^{-4}	3.2 10^{-11}	1.6 10^{-11}	1.0 10^{-11}	6.2 10^{-12}	5.0 10^{-12}
Nd-147	11.0 d	M	0.005	1.1 10^{-8}	5.0 10^{-4}	8.0 10^{-9}	4.5 10^{-9}	3.2 10^{-9}	2.6 10^{-9}	2.1 10^{-9}
		S	0.005	1.2 10^{-8}	5.0 10^{-4}	8.6 10^{-9}	4.9 10^{-9}	3.5 10^{-9}	3.0 10^{-9}	2.4 10^{-9}
Nd-149	1.73 h	M	0.005	6.8 10^{-10}	5.0 10^{-4}	4.6 10^{-10}	2.2 10^{-10}	1.5 10^{-10}	1.0 10^{-10}	8.4 10^{-11}
		S	0.005	7.1 10^{-10}	5.0 10^{-4}	4.8 10^{-10}	2.3 10^{-10}	1.5 10^{-10}	1.1 10^{-10}	8.9 10^{-11}
Nd-151	0.207 h	M	0.005	1.5 10^{-10}	5.0 10^{-4}	9.9 10^{-11}	4.6 10^{-11}	3.0 10^{-11}	2.0 10^{-11}	1.7 10^{-11}
		S	0.005	1.5 10^{-10}	5.0 10^{-4}	1.0 10^{-10}	4.8 10^{-11}	3.1 10^{-11}	2.1 10^{-11}	1.7 10^{-11}
Promethium										
Pm-141	0.348 h	M	0.005	1.4 10^{-10}	5.0 10^{-4}	9.4 10^{-11}	4.3 10^{-11}	2.7 10^{-11}	1.7 10^{-11}	1.4 10^{-11}
		S	0.005	1.5 10^{-10}	5.0 10^{-4}	9.7 10^{-11}	4.4 10^{-11}	2.8 10^{-11}	1.8 10^{-11}	1.5 10^{-11}
Pm-143	265 d	M	0.005	6.2 10^{-9}	5.0 10^{-4}	5.4 10^{-9}	3.3 10^{-9}	2.2 10^{-9}	1.7 10^{-9}	1.5 10^{-9}
		S	0.005	5.5 10^{-9}	5.0 10^{-4}	4.8 10^{-9}	3.1 10^{-9}	2.1 10^{-9}	1.7 10^{-9}	1.4 10^{-9}

TABLE B (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for inhaled radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Lung absorp-tion type	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
			f_1 for $g \le 1$ a	$h(g)$	f_1 for $g > 1$ a	$h(g)$	$h(g)$	$h(g)$	$h(g)$	$h(g)$
Pm-144	363 d	M	0.005	3.1 10^{-8}	5.0 10^{-4}	2.8 10^{-8}	1.8 10^{-8}	1.2 10^{-8}	9.3 10^{-9}	8.2 10^{-9}
		S	0.005	2.6 10^{-8}	5.0 10^{-4}	2.4 10^{-8}	1.6 10^{-8}	1.1 10^{-8}	8.9 10^{-9}	7.5 10^{-9}
Pm-145	17.7 a	M	0.005	1.1 10^{-8}	5.0 10^{-4}	9.8 10^{-9}	6.4 10^{-9}	4.3 10^{-9}	3.7 10^{-9}	3.6 10^{-9}
		S	0.005	7.1 10^{-9}	5.0 10^{-4}	6.5 10^{-9}	4.3 10^{-9}	2.9 10^{-9}	2.4 10^{-9}	2.3 10^{-9}
Pm-146	5.53 a	M	0.005	6.4 10^{-8}	5.0 10^{-4}	5.9 10^{-8}	3.9 10^{-8}	2.6 10^{-8}	2.2 10^{-8}	2.1 10^{-8}
		S	0.005	5.3 10^{-8}	5.0 10^{-4}	4.9 10^{-8}	3.3 10^{-8}	2.2 10^{-8}	1.9 10^{-8}	1.7 10^{-8}
Pm-147	2.62 a	M	0.005	2.1 10^{-8}	5.0 10^{-4}	1.8 10^{-8}	1.1 10^{-8}	7.0 10^{-9}	5.7 10^{-9}	5.0 10^{-9}
		S	0.005	1.9 10^{-8}	5.0 10^{-4}	1.6 10^{-8}	1.0 10^{-8}	6.8 10^{-9}	5.8 10^{-9}	4.9 10^{-9}
Pm-148	5.37 d	M	0.005	1.5 10^{-8}	5.0 10^{-4}	1.0 10^{-8}	5.2 10^{-9}	3.4 10^{-9}	2.4 10^{-9}	2.0 10^{-9}
		S	0.005	1.5 10^{-8}	5.0 10^{-4}	1.1 10^{-8}	5.5 10^{-9}	3.7 10^{-9}	2.6 10^{-9}	2.2 10^{-9}
Pm-148m	41.3 d	M	0.005	2.4 10^{-8}	5.0 10^{-4}	1.9 10^{-8}	1.1 10^{-4}	7.7 10^{-9}	6.3 10^{-9}	5.1 10^{-9}
		S	0.005	2.5 10^{-8}	5.0 10^{-4}	2.0 10^{-8}	1.2 10^{-8}	8.3 10^{-9}	7.1 10^{-9}	5.7 10^{-9}
Pm-149	2.21 d	M	0.005	5.0 10^{-9}	5.0 10^{-4}	3.5 10^{-9}	1.7 10^{-9}	1.1 10^{-9}	8.3 10^{-10}	6.7 10^{-10}
		S	0.005	5.3 10^{-9}	5.0 10^{-4}	3.6 10^{-9}	1.8 10^{-9}	1.2 10^{-9}	9.0 10^{-10}	7.3 10^{-10}
Pm-150	2.68 h	M	0.005	1.2 10^{-9}	5.0 10^{-4}	7.9 10^{-10}	3.8 10^{-10}	2.4 10^{-10}	1.5 10^{-10}	1.2 10^{-10}
		S	0.005	1.2 10^{-9}	5.0 10^{-4}	8.2 10^{-10}	3.9 10^{-10}	2.5 10^{-10}	1.6 10^{-10}	1.3 10^{-10}
Pm-151	1.18 d	M	0.005	3.3 10^{-9}	5.0 10^{-4}	2.5 10^{-9}	1.2 10^{-9}	8.3 10^{-10}	5.3 10^{-10}	4.3 10^{-10}
		S	0.005	3.4 10^{-9}	5.0 10^{-4}	2.6 10^{-9}	1.3 10^{-9}	7.9 10^{-10}	5.7 10^{-10}	4.6 10^{-10}
Samarium										
Sm-141	0.170 h	M	0.005	1.5 10^{-10}	5.0 10^{-4}	1.0 10^{-10}	4.7 10^{-11}	2.9 10^{-11}	1.8 10^{-11}	1.5 10^{-11}
Sm-141m	0.377 h	M	0.005	3.0 10^{-10}	5.0 10^{-4}	2.1 10^{-10}	9.7 10^{-11}	6.1 10^{-11}	3.9 10^{-11}	3.2 10^{-11}
Sm-142	1.21 h	M	0.005	7.5 10^{-10}	5.0 10^{-4}	4.8 10^{-10}	2.2 10^{-10}	1.4 10^{-10}	8.5 10^{-11}	7.1 10^{-11}
Sm-145	340 d	M	0.005	8.1 10^{-9}	5.0 10^{-4}	6.8 10^{-9}	4.0 10^{-9}	2.5 10^{-9}	1.9 10^{-9}	1.6 10^{-9}
Sm-146	1.03 10^{8} a	M	0.005	2.7 10^{-5}	5.0 10^{-4}	2.6 10^{-5}	1.7 10^{-5}	1.2 10^{-5}	1.1 10^{-5}	1.1 10^{-5}
Sm-147	1.06 10^{11} a	M	0.005	2.5 10^{-5}	5.0 10^{-4}	2.3 10^{-5}	1.6 10^{-5}	1.1 10^{-5}	9.6 10^{-6}	9.6 10^{-6}
Sm-151	90.0 a	M	0.005	1.1 10^{-8}	5.0 10^{-4}	1.0 10^{-8}	6.7 10^{-9}	4.5 10^{-9}	4.0 10^{-9}	4.0 10^{-9}
Sm-153	1.95 d	M	0.005	4.2 10^{-9}	5.0 10^{-4}	2.9 10^{-9}	1.5 10^{-9}	1.0 10^{-9}	7.9 10^{-10}	6.3 10^{-10}
Sm-155	0.368 h	M	0.005	1.5 10^{-10}	5.0 10^{-4}	9.9 10^{-11}	4.4 10^{-11}	2.9 10^{-11}	2.0 10^{-11}	1.7 10^{-11}
Sm-156	9.40 h	M	0.005	1.6 10^{-9}	5.0 10^{-4}	1.1 10^{-9}	5.8 10^{-10}	3.5 10^{-10}	2.7 10^{-10}	2.2 10^{-10}
Europium										
Eu-145	5.94 d	M	0.005	3.6 10^{-9}	5.0 10^{-4}	2.9 10^{-9}	1.6 10^{-9}	1.0 10^{-9}	6.8 10^{-10}	5.5 10^{-10}
Eu-146	4.61 d	M	0.005	5.5 10^{-9}	5.0 10^{-4}	4.4 10^{-9}	2.4 10^{-9}	1.5 10^{-9}	1.0 10^{-9}	8.0 10^{-10}
Eu-147	24.0 d	M	0.005	4.9 10^{-9}	5.0 10^{-4}	3.7 10^{-9}	2.2 10^{-9}	1.6 10^{-9}	1.3 10^{-9}	1.1 10^{-9}
Eu-148	54.5 d	M	0.005	1.4 10^{-8}	5.0 10^{-4}	1.2 10^{-8}	6.8 10^{-9}	4.6 10^{-9}	3.2 10^{-9}	2.6 10^{-9}
Eu-149	93.1 d	M	0.005	1.6 10^{-9}	5.0 10^{-4}	1.3 10^{-9}	7.3 10^{-10}	4.7 10^{-10}	3.5 10^{-10}	2.9 10^{-10}
Eu-150	34.2 a	M	0.005	1.1 10^{-7}	5.0 10^{-4}	1.1 10^{-7}	7.8 10^{-8}	5.7 10^{-8}	5.3 10^{-8}	5.3 10^{-8}
Eu-150	12.6 h	M	0.005	1.6 10^{-9}	5.0 10^{-4}	1.1 10^{-9}	5.2 10^{-10}	3.4 10^{-10}	2.3 10^{-10}	1.9 10^{-10}
Eu-152	13.3 a	M	0.005	1.1 10^{-7}	5.0 10^{-4}	1.0 10^{-7}	7.0 10^{-8}	4.9 10^{-8}	4.3 10^{-8}	4.2 10^{-8}
Eu-152m	9.32 h	M	0.005	1.9 10^{-9}	5.0 10^{-4}	1.3 10^{-9}	6.6 10^{-10}	4.2 10^{-10}	2.4 10^{-10}	2.2 10^{-10}
Eu-154	8.80 a	M	0.005	1.6 10^{-7}	5.0 10^{-4}	1.5 10^{-7}	9.7 10^{-8}	6.5 10^{-8}	5.6 10^{-8}	5.3 10^{-8}
Eu-155	4.96 a	M	0.005	2.6 10^{-8}	5.0 10^{-4}	2.3 10^{-8}	1.4 10^{-8}	9.2 10^{-9}	7.6 10^{-9}	6.9 10^{-9}
Eu-156	15.2 d	M	0.005	1.9 10^{-8}	5.0 10^{-4}	1.4 10^{-8}	7.7 10^{-9}	5.3 10^{-9}	4.2 10^{-9}	3.4 10^{-9}
Eu-157	15.1 h	M	0.005	2.5 10^{-9}	5.0 10^{-4}	1.9 10^{-9}	8.9 10^{-10}	5.9 10^{-10}	3.5 10^{-10}	2.8 10^{-10}
Eu-158	0.765 h	M	0.005	4.3 10^{-10}	5.0 10^{-4}	2.9 10^{-10}	1.3 10^{-10}	8.5 10^{-11}	5.6 10^{-11}	4.7 10^{-11}
Gadolinium										
Gd-145	0.382 h	F	0.005	1.3 10^{-10}	5.0 10^{-4}	9.6 10^{-11}	4.7 10^{-11}	2.9 10^{-11}	1.7 10^{-11}	1.4 10^{-11}
		M	0.005	1.8 10^{-10}	5.0 10^{-4}	1.3 10^{-10}	6.2 10^{-11}	3.9 10^{-11}	2.4 10^{-11}	2.0 10^{-11}
Gd-146	48.3 d	F	0.005	2.9 10^{-8}	5.0 10^{-4}	2.3 10^{-8}	1.2 10^{-8}	7.8 10^{-9}	5.1 10^{-9}	4.4 10^{-9}
		M	0.005	2.8 10^{-8}	5.0 10^{-4}	2.2 10^{-8}	1.3 10^{-8}	9.3 10^{-9}	7.9 10^{-9}	6.4 10^{-9}
Gd-147	1.59 d	F	0.005	2.1 10^{-9}	5.0 10^{-4}	1.7 10^{-9}	8.4 10^{-10}	5.3 10^{-10}	3.1 10^{-10}	2.6 10^{-10}
		M	0.005	2.8 10^{-9}	5.0 10^{-4}	2.2 10^{-9}	1.1 10^{-9}	7.5 10^{-10}	5.1 10^{-10}	4.0 10^{-10}
Gd-148	93.0 a	F	0.005	8.3 10^{-5}	5.0 10^{-4}	7.6 10^{-5}	4.7 10^{-5}	3.2 10^{-5}	2.6 10^{-5}	2.6 10^{-5}
		M	0.005	3.2 10^{-5}	5.0 10^{-4}	2.9 10^{-5}	1.9 10^{-5}	1.3 10^{-5}	1.2 10^{-5}	1.1 10^{-5}
Gd-149	9.40 d	F	0.005	2.6 10^{-9}	5.0 10^{-4}	2.0 10^{-9}	8.0 10^{-10}	5.1 10^{-10}	3.1 10^{-10}	2.6 10^{-10}
		M	0.005	3.6 10^{-9}	5.0 10^{-4}	3.0 10^{-9}	1.5 10^{-9}	1.1 10^{-9}	9.2 10^{-10}	7.3 10^{-10}
Gd-151	120 d	F	0.005	6.3 10^{-9}	5.0 10^{-4}	4.9 10^{-9}	2.5 10^{-9}	1.5 10^{-9}	9.2 10^{-10}	7.8 10^{-10}
		M	0.005	4.5 10^{-9}	5.0 10^{-4}	3.5 10^{-9}	2.0 10^{-9}	1.3 10^{-9}	1.0 10^{-9}	8.6 10^{-10}
Gd-152	1.08 10^{14} a	F	0.005	5.9 10^{-5}	5.0 10^{-4}	5.4 10^{-5}	3.4 10^{-5}	2.4 10^{-5}	1.9 10^{-5}	1.9 10^{-5}
		M	0.005	2.1 10^{-5}	5.0 10^{-4}	1.9 10^{-5}	1.3 10^{-5}	8.9 10^{-6}	7.9 10^{-6}	8.0 10^{-6}
Gd-153	242 d	F	0.005	1.5 10^{-8}	5.0 10^{-4}	1.2 10^{-8}	6.5 10^{-9}	3.9 10^{-9}	2.4 10^{-9}	2.1 10^{-9}
		M	0.005	9.9 10^{-9}	5.0 10^{-4}	7.9 10^{-9}	4.8 10^{-9}	3.1 10^{-9}	2.5 10^{-9}	2.1 10^{-9}
Gd-159	18.6 h	F	0.005	1.2 10^{-9}	5.0 10^{-4}	8.9 10^{-10}	3.8 10^{-10}	2.3 10^{-10}	1.2 10^{-10}	1.0 10^{-10}
		M	0.005	2.2 10^{-9}	5.0 10^{-4}	1.5 10^{-9}	7.3 10^{-10}	4.9 10^{-10}	3.4 10^{-10}	2.7 10^{-10}

TABLE B (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for inhaled radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Lung absorption type	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
			f_1 for $g \le 1$ a	h(g)	f_1 for $g > 1$ a	h(g)	h(g)	h(g)	h(g)	h(g)
Terbium										
Tb-147	1.65 h	M	0.005	6.7 10^{-10}	5.0 10^{-4}	4.8 10^{-10}	2.3 10^{-10}	1.5 10^{-10}	9.3 10^{-11}	7.6 10^{-11}
Tb-149	4.15 h	M	0.005	2.1 10^{-8}	5.0 10^{-4}	1.5 10^{-8}	9.6 10^{-9}	6.6 10^{-9}	5.8 10^{-9}	4.9 10^{-9}
Tb-150	3.27 h	M	0.005	1.0 10^{-9}	5.0 10^{-4}	7.4 10^{-10}	3.5 10^{-10}	2.2 10^{-10}	1.3 10^{-10}	1.1 10^{-10}
Tb-151	17.6 h	M	0.005	1.6 10^{-9}	5.0 10^{-4}	1.2 10^{-9}	6.3 10^{-10}	4.2 10^{-10}	2.8 10^{-10}	2.3 10^{-10}
Tb-153	2.34 d	M	0.005	1.4 10^{-9}	5.0 10^{-4}	1.0 10^{-9}	5.4 10^{-10}	3.6 10^{-10}	2.3 10^{-10}	1.9 10^{-10}
Tb-154	21.4 h	M	0.005	2.7 10^{-9}	5.0 10^{-4}	2.1 10^{-9}	1.1 10^{-9}	7.1 10^{-10}	4.5 10^{-10}	3.6 10^{-10}
Tb-155	5.32 d	M	0.005	1.4 10^{-9}	5.0 10^{-4}	1.0 10^{-9}	5.6 10^{-10}	3.4 10^{-10}	2.7 10^{-10}	2.2 10^{-10}
Tb-156	5.34 d	M	0.005	7.0 10^{-9}	5.0 10^{-4}	5.4 10^{-9}	3.0 10^{-9}	2.0 10^{-9}	1.5 10^{-9}	1.2 10^{-9}
Tb-156m	1.02 d	M	0.005	1.1 10^{-9}	5.0 10^{-4}	9.4 10^{-10}	4.7 10^{-10}	3.3 10^{-10}	2.7 10^{-10}	2.1 10^{-10}
Tb-156m	5.00 h	M	0.005	6.2 10^{-10}	5.0 10^{-4}	4.5 10^{-10}	2.4 10^{-10}	1.7 10^{-10}	1.2 10^{-10}	9.6 10^{-11}
Tb-157	1.50 10^{2} a	M	0.005	3.2 10^{-9}	5.0 10^{-4}	3.0 10^{-9}	2.0 10^{-9}	1.4 10^{-9}	1.2 10^{-9}	1.2 10^{-9}
Tb-158	1.50 10^{2} a	M	0.005	1.1 10^{-7}	5.0 10^{-4}	1.0 10^{-7}	7.0 10^{-8}	5.1 10^{-8}	4.7 10^{-8}	4.6 10^{-8}
Tb-160	72.3 d	M	0.005	3.2 10^{-8}	5.0 10^{-4}	2.5 10^{-8}	1.5 10^{-8}	1.0 10^{-8}	8.6 10^{-9}	7.0 10^{-9}
Tb-161	6.91 d	M	0.005	6.6 10^{-9}	5.0 10^{-4}	4.7 10^{-9}	2.6 10^{-9}	1.9 10^{-9}	1.6 10^{-9}	1.3 10^{-9}
Dysprosium										
Dy-155	10.0 h	M	0.005	5.6 10^{-10}	5.0 10^{-4}	4.4 10^{-10}	2.3 10^{-10}	1.5 10^{-10}	9.6 10^{-11}	7.7 10^{-11}
Dy-157	8.10 h	M	0.005	2.4 10^{-10}	5.0 10^{-4}	1.9 10^{-10}	9.9 10^{-11}	6.2 10^{-11}	3.8 10^{-11}	3.0 10^{-11}
Dy-159	144 d	M	0.005	2.1 10^{-9}	5.0 10^{-4}	1.7 10^{-9}	9.6 10^{-10}	6.0 10^{-10}	4.4 10^{-10}	3.7 10^{-10}
Dy-165	2.33 h	M	0.005	5.2 10^{-10}	5.0 10^{-4}	3.4 10^{-10}	1.6 10^{-10}	1.1 10^{-10}	7.2 10^{-11}	6.0 10^{-11}
Dy-166	3.40 d	M	0.005	1.2 10^{-8}	5.0 10^{-4}	8.3 10^{-9}	4.4 10^{-9}	3.0 10^{-9}	2.3 10^{-9}	1.9 10^{-9}
Holmium										
Ho-155	0.800 h	M	0.005	1.7 10^{-10}	5.0 10^{-4}	1.2 10^{-10}	5.8 10^{-11}	3.7 10^{-11}	2.4 10^{-11}	2.0 10^{-11}
Ho-157	0.210 h	M	0.005	3.4 10^{-11}	5.0 10^{-4}	2.5 10^{-11}	1.3 10^{-11}	8.0 10^{-12}	5.1 10^{-12}	4.2 10^{-12}
Ho-159	0.550 h	M	0.005	4.6 10^{-11}	5.0 10^{-4}	3.3 10^{-11}	1.7 10^{-11}	1.1 10^{-11}	7.5 10^{-12}	6.1 10^{-12}
Ho-161	2.50 h	M	0.005	5.7 10^{-11}	5.0 10^{-4}	4.0 10^{-11}	2.0 10^{-11}	1.2 10^{-11}	7.5 10^{-12}	6.0 10^{-12}
Ho-162	0.250 h	M	0.005	2.1 10^{-11}	5.0 10^{-4}	1.5 10^{-11}	7.2 10^{-12}	4.8 10^{-12}	3.4 10^{-12}	2.8 10^{-12}
Ho-162m	1.13 h	M	0.005	1.5 10^{-10}	5.0 10^{-4}	1.1 10^{-10}	5.8 10^{-11}	3.8 10^{-11}	2.6 10^{-11}	2.1 10^{-11}
Ho-164	0.483 h	M	0.005	6.8 10^{-11}	5.0 10^{-4}	4.5 10^{-11}	2.1 10^{-11}	1.4 10^{-11}	9.9 10^{-12}	8.4 10^{-12}
Ho-164m	0.625 h	M	0.005	9.1 10^{-11}	5.0 10^{-4}	5.9 10^{-11}	3.0 10^{-11}	2.0 10^{-11}	1.3 10^{-11}	1.2 10^{-11}
Ho-166	1.12 d	M	0.005	6.0 10^{-9}	5.0 10^{-4}	4.0 10^{-9}	1.9 10^{-9}	1.2 10^{-9}	7.9 10^{-10}	6.5 10^{-10}
Ho-166m	1.20 10^{3} a	M	0.005	2.6 10^{-7}	5.0 10^{-4}	2.5 10^{-7}	1.8 10^{-7}	1.3 10^{-7}	1.2 10^{-7}	1.2 10^{-7}
Ho-167	3.10 h	M	0.005	5.2 10^{-10}	5.0 10^{-4}	3.6 10^{-10}	1.8 10^{-10}	1.2 10^{-10}	8.7 10^{-11}	7.1 10^{-11}
Erbium										
Er-161	3.24 h	M	0.005	3.8 10^{-10}	5.0 10^{-4}	2.9 10^{-10}	1.5 10^{-10}	9.5 10^{-11}	6.0 10^{-11}	4.8 10^{-11}
Er-165	10.4 h	M	0.005	7.2 10^{-11}	5.0 10^{-4}	5.3 10^{-11}	2.6 10^{-11}	1.6 10^{-11}	9.6 10^{-12}	7.9 10^{-12}
Er-169	9.30 d	M	0.005	4.7 10^{-9}	5.0 10^{-4}	3.5 10^{-9}	2.0 10^{-9}	1.5 10^{-9}	1.3 10^{-9}	1.0 10^{-9}
Er-171	7.52 h	M	0.005	1.8 10^{-9}	5.0 10^{-4}	1.2 10^{-9}	5.9 10^{-10}	3.9 10^{-10}	2.7 10^{-10}	2.2 10^{-10}
Er-172	2.05 d	M	0.005	6.6 10^{-9}	5.0 10^{-4}	4.7 10^{-9}	2.5 10^{-9}	1.7 10^{-9}	1.4 10^{-9}	1.1 10^{-9}
Thulium										
Tm-162	0.362 h	M	0.005	1.3 10^{-10}	5.0 10^{-4}	9.6 10^{-11}	4.7 10^{-11}	3.0 10^{-11}	1.9 10^{-11}	1.6 10^{-11}
Tm-166	7.70 h	M	0.005	1.3 10^{-9}	5.0 10^{-4}	9.9 10^{-10}	5.2 10^{-10}	3.3 10^{-10}	2.2 10^{-10}	1.7 10^{-10}
Tm-167	9.24 d	M	0.005	5.6 10^{-9}	5.0 10^{-4}	4.1 10^{-9}	2.3 10^{-9}	1.7 10^{-9}	1.4 10^{-9}	1.1 10^{-9}
Tm-170	129 d	M	0.005	3.6 10^{-8}	5.0 10^{-4}	2.8 10^{-8}	1.6 10^{-8}	1.1 10^{-8}	8.5 10^{-9}	7.0 10^{-9}
Tm-171	1.92 a	M	0.005	6.8 10^{-9}	5.0 10^{-4}	5.7 10^{-9}	3.4 10^{-9}	2.0 10^{-9}	1.6 10^{-9}	1.4 10^{-9}
Tm-172	2.65 d	M	0.005	8.4 10^{-9}	5.0 10^{-4}	5.8 10^{-9}	2.9 10^{-9}	1.9 10^{-9}	1.4 10^{-9}	1.1 10^{-9}
Tm-173	8.24 h	M	0.005	1.5 10^{-9}	5.0 10^{-4}	1.0 10^{-9}	5.0 10^{-10}	3.3 10^{-10}	2.2 10^{-10}	1.8 10^{-10}
Tm-175	0.253 h	M	0.005	1.6 10^{-10}	5.0 10^{-4}	1.1 10^{-10}	5.0 10^{-11}	3.3 10^{-11}	2.2 10^{-11}	1.8 10^{-11}
Ytterbium										
Yb-162	0.315 h	M	0.005	1.1 10^{-10}	5.0 10^{-4}	7.9 10^{-11}	3.9 10^{-11}	2.5 10^{-11}	1.6 10^{-11}	1.3 10^{-11}
		S	0.005	1.2 10^{-10}	5.0 10^{-4}	8.2 10^{-11}	4.0 10^{-11}	2.6 10^{-11}	1.7 10^{-11}	1.4 10^{-11}
Yb-166	2.36 d	M	0.005	4.7 10^{-9}	5.0 10^{-4}	3.5 10^{-9}	1.9 10^{-9}	1.3 10^{-9}	9.0 10^{-10}	7.2 10^{-10}
		S	0.005	4.9 10^{-9}	5.0 10^{-4}	3.7 10^{-9}	2.0 10^{-9}	1.3 10^{-9}	9.6 10^{-10}	7.7 10^{-10}
Yb-167	0.292 h	M	0.005	4.4 10^{-11}	5.0 10^{-4}	3.1 10^{-11}	1.6 10^{-11}	1.1 10^{-11}	7.9 10^{-12}	6.5 10^{-12}
		S	0.005	4.6 10^{-11}	5.0 10^{-4}	3.2 10^{-11}	1.7 10^{-11}	1.1 10^{-11}	8.4 10^{-12}	6.9 10^{-12}
Yb-169	32.0 d	M	0.005	1.2 10^{-8}	5.0 10^{-4}	8.7 10^{-9}	5.1 10^{-9}	3.7 10^{-9}	3.2 10^{-9}	2.5 10^{-9}
		S	0.005	1.3 10^{-8}	5.0 10^{-4}	9.8 10^{-9}	5.9 10^{-9}	4.2 10^{-9}	3.7 10^{-9}	3.0 10^{-9}
Yb-175	4.19 d	M	0.005	3.5 10^{-9}	5.0 10^{-4}	2.5 10^{-9}	1.4 10^{-9}	9.8 10^{-10}	8.3 10^{-10}	6.5 10^{-10}
		S	0.005	3.7 10^{-9}	5.0 10^{-4}	2.7 10^{-9}	1.5 10^{-9}	1.1 10^{-9}	9.2 10^{-10}	7.3 10^{-10}
Yb-177	1.90 h	M	0.005	5.0 10^{-10}	5.0 10^{-4}	3.3 10^{-10}	1.6 10^{-10}	1.1 10^{-10}	7.8 10^{-11}	6.4 10^{-11}
		S	0.005	5.3 10^{-10}	5.0 10^{-4}	3.5 10^{-10}	1.7 10^{-10}	1.2 10^{-10}	8.4 10^{-11}	6.9 10^{-11}

TABLE B (continues)

Values of dose conversion factors $h(g)$ ($Sv \cdot Bq^{-1}$) for inhaled radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Lung absorption type	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
			f_1 for $g \le 1$ a	$h(g)$	f_1 for $g > 1$ a	$h(g)$	$h(g)$	$h(g)$	$h(g)$	$h(g)$
Yb-178	1.23 h	M	0.005	5.9 10^{-10}	5.0 10^{-4}	3.9 10^{-10}	1.8 10^{-10}	1.2 10^{-10}	8.5 10^{-11}	7.0 10^{-11}
		S	0.005	6.2 10^{-10}	5.0 10^{-4}	4.1 10^{-10}	1.9 10^{-10}	1.3 10^{-10}	9.1 10^{-11}	7.5 10^{-11}
Lutetium										
Lu-169	1.42 d	M	0.005	2.3 10^{-9}	5.0 10^{-4}	1.8 10^{-9}	9.5 10^{-10}	6.3 10^{-10}	4.4 10^{-10}	3.5 10^{-10}
		S	0.005	2.4 10^{-9}	5.0 10^{-4}	1.9 10^{-9}	1.0 10^{-9}	6.7 10^{-10}	4.8 10^{-10}	3.8 10^{-10}
Lu-170	2.00 d	M	0.005	4.3 10^{-9}	5.0 10^{-4}	3.4 10^{-9}	1.8 10^{-9}	1.2 10^{-9}	7.8 10^{-10}	6.3 10^{-10}
		S	0.005	4.5 10^{-9}	5.0 10^{-4}	3.5 10^{-9}	1.8 10^{-9}	1.2 10^{-9}	8.2 10^{-10}	6.6 10^{-10}
Lu-171	8.22 d	M	0.005	5.0 10^{-9}	5.0 10^{-4}	3.7 10^{-9}	2.1 10^{-9}	1.2 10^{-9}	9.8 10^{-10}	8.0 10^{-10}
		S	0.005	4.7 10^{-9}	5.0 10^{-4}	3.9 10^{-9}	2.0 10^{-9}	1.4 10^{-9}	1.1 10^{-9}	8.8 10^{-10}
Lu-172	6.70 d	M	0.005	8.7 10^{-9}	5.0 10^{-4}	6.7 10^{-9}	3.8 10^{-9}	2.6 10^{-9}	1.8 10^{-9}	1.4 10^{-9}
		S	0.005	9.3 10^{-9}	5.0 10^{-4}	7.1 10^{-9}	4.0 10^{-9}	2.8 10^{-9}	2.0 10^{-9}	1.6 10^{-9}
Lu-173	1.37 a	M	0.005	1.0 10^{-8}	5.0 10^{-4}	8.5 10^{-9}	5.1 10^{-9}	3.2 10^{-9}	2.5 10^{-9}	2.2 10^{-9}
		S	0.005	1.0 10^{-8}	5.0 10^{-4}	8.7 10^{-9}	5.4 10^{-9}	3.6 10^{-9}	2.9 10^{-9}	2.4 10^{-9}
Lu-174	3.31 a	M	0.005	1.7 10^{-8}	5.0 10^{-4}	1.5 10^{-8}	9.1 10^{-9}	5.8 10^{-9}	4.7 10^{-9}	4.2 10^{-9}
		S	0.005	1.6 10^{-8}	5.0 10^{-4}	1.4 10^{-8}	8.9 10^{-9}	5.9 10^{-9}	4.9 10^{-9}	4.2 10^{-9}
Lu-174m	142 d	M	0.005	1.9 10^{-8}	5.0 10^{-4}	1.4 10^{-8}	8.6 10^{-9}	5.4 10^{-9}	4.3 10^{-9}	3.7 10^{-9}
		S	0.005	2.0 10^{-8}	5.0 10^{-4}	1.5 10^{-8}	9.2 10^{-9}	6.1 10^{-9}	5.0 10^{-9}	4.2 10^{-9}
Lu-176	3.60 10^{10} a	M	0.005	1.8 10^{-7}	5.0 10^{-4}	1.7 10^{-7}	1.1 10^{-7}	7.8 10^{-8}	7.1 10^{-8}	7.0 10^{-8}
		S	0.005	1.5 10^{-7}	5.0 10^{-4}	1.4 10^{-7}	9.4 10^{-8}	6.5 10^{-8}	5.9 10^{-8}	5.6 10^{-8}
Lu-176m	3.68 h	M	0.005	8.9 10^{-10}	5.0 10^{-4}	5.9 10^{-10}	2.8 10^{-10}	1.9 10^{-10}	1.2 10^{-10}	1.1 10^{-10}
		S	0.005	9.3 10^{-10}	5.0 10^{-4}	6.2 10^{-10}	3.0 10^{-10}	2.0 10^{-10}	1.2 10^{-10}	1.2 10^{-10}
Lu-177	6.71 d	M	0.005	5.3 10^{-9}	5.0 10^{-4}	3.8 10^{-9}	2.2 10^{-9}	1.6 10^{-9}	1.4 10^{-9}	1.1 10^{-9}
		S	0.005	5.7 10^{-9}	5.0 10^{-4}	4.1 10^{-9}	2.4 10^{-9}	1.7 10^{-9}	1.5 10^{-9}	1.2 10^{-9}
Lu-177m	161 d	M	0.005	5.8 10^{-8}	5.0 10^{-4}	4.6 10^{-8}	2.8 10^{-8}	1.9 10^{-8}	1.6 10^{-8}	1.3 10^{-8}
		S	0.005	6.5 10^{-8}	5.0 10^{-4}	5.3 10^{-8}	3.2 10^{-8}	2.3 10^{-8}	2.0 10^{-8}	1.6 10^{-8}
Lu-178	0.473 h	M	0.005	2.3 10^{-10}	5.0 10^{-4}	1.5 10^{-10}	6.6 10^{-11}	4.3 10^{-11}	2.9 10^{-11}	2.4 10^{-11}
		S	0.005	2.4 10^{-10}	5.0 10^{-4}	1.5 10^{-10}	6.9 10^{-11}	4.5 10^{-11}	3.0 10^{-11}	2.6 10^{-11}
Lu-178m	0.378 h	M	0.005	2.6 10^{-10}	5.0 10^{-4}	1.8 10^{-10}	8.3 10^{-11}	5.6 10^{-11}	3.8 10^{-11}	3.2 10^{-11}
		S	0.005	2.7 10^{-10}	5.0 10^{-4}	1.9 10^{-10}	8.7 10^{-11}	5.8 10^{-11}	4.0 10^{-11}	3.3 10^{-11}
Lu-179	4.59 h	M	0.005	9.9 10^{-10}	5.0 10^{-4}	6.5 10^{-10}	3.0 10^{-10}	2.0 10^{-10}	1.2 10^{-10}	1.1 10^{-10}
		S	0.005	1.0 10^{-9}	5.0 10^{-4}	6.8 10^{-10}	3.2 10^{-10}	2.1 10^{-10}	1.3 10^{-10}	1.2 10^{-10}
Hafnium										
Hf-170	16.0 h	F	0.020	1.4 10^{-9}	0.002	1.1 10^{-9}	5.4 10^{-10}	3.4 10^{-10}	2.0 10^{-10}	1.6 10^{-10}
		M	0.020	2.2 10^{-9}	0.002	1.7 10^{-9}	8.7 10^{-10}	5.8 10^{-10}	3.9 10^{-10}	3.2 10^{-10}
Hf-172	1.87 a	F	0.020	1.5 10^{-7}	0.002	1.3 10^{-7}	7.8 10^{-8}	4.9 10^{-8}	3.5 10^{-8}	3.2 10^{-8}
		M	0.020	8.1 10^{-8}	0.002	6.9 10^{-8}	4.3 10^{-8}	2.8 10^{-8}	2.3 10^{-8}	2.0 10^{-8}
Hf-173	24.0 h	F	0.020	6.6 10^{-10}	0.002	5.0 10^{-10}	2.5 10^{-10}	1.5 10^{-10}	8.9 10^{-11}	7.4 10^{-11}
		M	0.020	1.1 10^{-9}	0.002	8.2 10^{-10}	4.3 10^{-10}	2.9 10^{-10}	2.0 10^{-10}	1.6 10^{-10}
Hf-175	70.0 d	F	0.020	5.4 10^{-9}	0.002	4.0 10^{-9}	2.1 10^{-9}	1.3 10^{-9}	8.5 10^{-10}	7.2 10^{-10}
		M	0.020	5.8 10^{-9}	0.002	4.5 10^{-9}	2.6 10^{-9}	1.8 10^{-9}	1.4 10^{-9}	1.2 10^{-9}
Hf-177m	0.856 h	F	0.020	3.9 10^{-10}	0.002	2.8 10^{-10}	1.3 10^{-10}	8.5 10^{-11}	5.2 10^{-11}	4.4 10^{-11}
		M	0.020	6.5 10^{-10}	0.002	4.7 10^{-10}	2.3 10^{-10}	1.5 10^{-10}	1.1 10^{-10}	9.0 10^{-11}
Hf-178m	31.0 a	F	0.020	6.2 10^{-7}	0.002	5.8 10^{-7}	4.0 10^{-7}	3.1 10^{-7}	2.7 10^{-7}	2.6 10^{-7}
		M	0.020	2.6 10^{-7}	0.002	2.4 10^{-7}	1.7 10^{-7}	1.3 10^{-7}	1.2 10^{-7}	1.2 10^{-7}
Hf-179m	25.1 d	F	0.020	9.7 10^{-9}	0.002	6.8 10^{-9}	3.4 10^{-9}	2.1 10^{-9}	1.2 10^{-9}	1.1 10^{-9}
		M	0.020	1.7 10^{-8}	0.002	1.3 10^{-8}	7.6 10^{-9}	5.5 10^{-9}	4.8 10^{-9}	3.8 10^{-9}
Hf-180m	5.50 h	F	0.020	5.4 10^{-10}	0.002	4.1 10^{-10}	2.0 10^{-10}	1.3 10^{-10}	7.2 10^{-11}	5.9 10^{-11}
		M	0.020	9.1 10^{-10}	0.002	6.8 10^{-10}	3.6 10^{-10}	2.4 10^{-10}	1.7 10^{-10}	1.3 10^{-10}
Hf-181	42.4 d	F	0.020	1.3 10^{-8}	0.002	9.6 10^{-9}	4.8 10^{-9}	2.8 10^{-9}	1.7 10^{-9}	1.4 10^{-9}
		M	0.020	2.2 10^{-8}	0.002	1.7 10^{-8}	9.9 10^{-9}	7.1 10^{-9}	6.3 10^{-9}	5.0 10^{-9}
Hf-182	9.00 10^{6} a	F	0.020	6.5 10^{-7}	0.002	6.2 10^{-7}	4.4 10^{-7}	3.6 10^{-7}	3.1 10^{-7}	3.1 10^{-7}
		M	0.020	2.4 10^{-7}	0.002	2.3 10^{-7}	1.7 10^{-7}	1.3 10^{-7}	1.3 10^{-7}	1.3 10^{-7}
Hf-182m	1.02 h	F	0.020	1.9 10^{-10}	0.002	1.4 10^{-10}	6.6 10^{-11}	4.2 10^{-11}	2.6 10^{-11}	2.1 10^{-11}
		M	0.020	3.2 10^{-10}	0.002	2.3 10^{-10}	1.2 10^{-10}	7.8 10^{-11}	5.6 10^{-11}	4.6 10^{-11}
Hf-183	1.07 h	F	0.020	2.5 10^{-10}	0.002	1.7 10^{-10}	7.9 10^{-11}	4.9 10^{-11}	2.8 10^{-11}	2.4 10^{-11}
		M	0.020	4.4 10^{-10}	0.002	3.0 10^{-10}	1.5 10^{-10}	9.8 10^{-11}	7.0 10^{-11}	5.7 10^{-11}
Hf-184	4.12 h	F	0.020	1.4 10^{-9}	0.002	9.6 10^{-10}	4.3 10^{-10}	2.7 10^{-10}	1.4 10^{-10}	1.2 10^{-10}
		M	0.020	2.6 10^{-9}	0.002	1.8 10^{-9}	8.9 10^{-10}	5.9 10^{-10}	4.0 10^{-10}	3.3 10^{-10}
Tantalum										
Ta-172	0.613 h	M	0.010	2.8 10^{-10}	0.001	1.9 10^{-10}	9.3 10^{-11}	6.0 10^{-11}	4.0 10^{-11}	3.3 10^{-11}
		S	0.010	2.9 10^{-10}	0.001	2.0 10^{-10}	9.8 10^{-11}	6.3 10^{-11}	4.2 10^{-11}	3.5 10^{-11}
Ta-173	3.65 h	M	0.010	8.8 10^{-10}	0.001	6.2 10^{-10}	3.0 10^{-10}	2.0 10^{-10}	1.3 10^{-10}	1.1 10^{-10}
		S	0.010	9.2 10^{-10}	0.001	6.5 10^{-10}	3.2 10^{-10}	2.1 10^{-10}	1.4 10^{-10}	1.1 10^{-10}

TABLE B (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for inhaled radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Lung absorp-tion type	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
			f_1 for $g \le 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Ta-174	1.20 h	M	0.010	3.2 10^{-10}	0.001	2.2 10^{-10}	1.1 10^{-10}	7.1 10^{-11}	5.0 10^{-11}	4.1 10^{-11}
		S	0.010	3.4 10^{-10}	0.001	2.3 10^{-10}	1.1 10^{-10}	7.5 10^{-11}	5.3 10^{-11}	4.3 10^{-11}
Ta-175	10.5 h	M	0.010	9.1 10^{-10}	0.001	7.0 10^{-10}	3.7 10^{-10}	2.4 10^{-10}	1.5 10^{-10}	1.2 10^{-10}
		S	0.010	9.5 10^{-10}	0.001	7.3 10^{-10}	3.8 10^{-10}	2.5 10^{-10}	1.6 10^{-10}	1.3 10^{-10}
Ta-176	8.08 h	M	0.010	1.4 10^{-9}	0.001	1.1 10^{-9}	5.7 10^{-10}	3.7 10^{-10}	2.4 10^{-10}	1.9 10^{-10}
		S	0.010	1.4 10^{-9}	0.001	1.1 10^{-9}	5.9 10^{-10}	3.8 10^{-10}	2.5 10^{-10}	2.0 10^{-10}
Ta-177	2.36 d	M	0.010	6.5 10^{-10}	0.001	4.7 10^{-10}	2.5 10^{-10}	1.5 10^{-10}	1.2 10^{-10}	9.6 10^{-11}
		S	0.010	6.9 10^{-10}	0.001	5.0 10^{-10}	2.7 10^{-10}	1.7 10^{-10}	1.3 10^{-10}	1.1 10^{-10}
Ta-178	2.20 h	M	0.010	4.4 10^{-10}	0.001	3.3 10^{-10}	1.7 10^{-10}	1.1 10^{-10}	8.0 10^{-11}	6.5 10^{-11}
		S	0.010	4.6 10^{-10}	0.001	3.4 10^{-10}	1.8 10^{-10}	1.2 10^{-10}	8.5 10^{-11}	6.8 10^{-11}
Ta-179	1.82 a	M	0.010	1.2 10^{-9}	0.001	9.6 10^{-10}	5.5 10^{-10}	3.5 10^{-10}	2.6 10^{-10}	2.2 10^{-10}
		S	0.010	2.4 10^{-9}	0.001	2.1 10^{-9}	1.3 10^{-9}	8.3 10^{-10}	6.4 10^{-10}	5.6 10^{-10}
Ta-180	1.00 10^{13} a	M	0.010	2.7 10^{-8}	0.001	2.2 10^{-8}	1.3 10^{-8}	9.2 10^{-9}	7.9 10^{-9}	6.4 10^{-9}
		S	0.010	7.0 10^{-8}	0.001	6.5 10^{-8}	4.5 10^{-8}	3.1 10^{-8}	2.8 10^{-8}	2.6 10^{-8}
Ta-180 m	8.10 h	M	0.010	3.1 10^{-10}	0.001	2.2 10^{-10}	1.1 10^{-10}	7.4 10^{-11}	4.8 10^{-11}	4.4 10^{-11}
		S	0.010	3.3 10^{-10}	0.001	2.3 10^{-10}	1.2 10^{-10}	7.9 10^{-11}	5.2 10^{-11}	4.2 10^{-11}
Ta-182	115 d	M	0.010	3.2 10^{-8}	0.001	2.6 10^{-8}	1.5 10^{-8}	1.1 10^{-8}	9.5 10^{-9}	7.6 10^{-9}
		S	0.010	4.2 10^{-8}	0.001	3.4 10^{-8}	2.1 10^{-8}	1.5 10^{-8}	1.3 10^{-8}	1.0 10^{-8}
Ta-182m	0.264 h	M	0.010	1.6 10^{-10}	0.001	1.1 10^{-10}	4.9 10^{-11}	3.4 10^{-11}	2.4 10^{-11}	2.0 10^{-11}
		S	0.010	1.6 10^{-10}	0.001	1.1 10^{-10}	5.2 10^{-11}	3.6 10^{-11}	2.5 10^{-11}	2.1 10^{-11}
Ta-183	5.10 d	M	0.010	1.0 10^{-8}	0.001	7.4 10^{-9}	4.1 10^{-9}	2.9 10^{-9}	2.4 10^{-9}	1.9 10^{-9}
		S	0.010	1.1 10^{-8}	0.001	8.0 10^{-9}	4.5 10^{-9}	3.2 10^{-9}	2.7 10^{-9}	2.1 10^{-9}
Ta-184	8.70 h	M	0.010	3.2 10^{-9}	0.001	2.3 10^{-9}	1.1 10^{-9}	7.5 10^{-10}	5.0 10^{-10}	4.1 10^{-10}
		S	0.010	3.4 10^{-9}	0.001	2.4 10^{-9}	1.2 10^{-9}	7.9 10^{-10}	5.4 10^{-10}	4.3 10^{-10}
Ta-185	0.816 h	M	0.010	3.8 10^{-10}	0.001	2.5 10^{-10}	1.2 10^{-10}	7.7 10^{-11}	5.4 10^{-11}	4.5 10^{-11}
		S	0.010	4.0 10^{-10}	0.001	2.6 10^{-10}	1.2 10^{-10}	8.2 10^{-11}	5.7 10^{-11}	4.8 10^{-11}
Ta-186	0.175 h	M	0.010	1.6 10^{-10}	0.001	1.1 10^{-10}	4.8 10^{-11}	3.1 10^{-11}	2.0 10^{-11}	1.7 10^{-11}
		S	0.010	1.6 10^{-10}	0.001	1.1 10^{-10}	5.0 10^{-11}	3.2 10^{-11}	2.1 10^{-11}	1.8 10^{-11}
Tungsten										
W-176	2.30 h	F	0.600	3.3 10^{-10}	0.300	2.7 10^{-10}	1.4 10^{-10}	8.6 10^{-11}	5.0 10^{-11}	4.1 10^{-11}
W-177	2.25 h	F	0.600	2.0 10^{-10}	0.300	1.6 10^{-10}	8.2 10^{-11}	5.1 10^{-11}	3.0 10^{-11}	2.4 10^{-11}
W-178	21.7 d	F	0.600	7.2 10^{-10}	0.300	5.4 10^{-10}	2.5 10^{-10}	1.6 10^{-10}	8.7 10^{-11}	7.2 10^{-11}
W-179	0.625 h	F	0.600	9.3 10^{-12}	0.300	6.8 10^{-12}	3.3 10^{-12}	2.0 10^{-12}	1.2 10^{-12}	9.2 10^{-13}
W-181	121 d	F	0.600	2.5 10^{-10}	0.300	1.9 10^{-10}	9.2 10^{-11}	5.7 10^{-11}	3.2 10^{-11}	2.7 10^{-11}
W-185	75.1 d	F	0.600	1.4 10^{-9}	0.300	1.0 10^{-9}	4.4 10^{-10}	2.7 10^{-10}	1.4 10^{-10}	1.2 10^{-10}
W-187	23.9 h	F	0.600	2.0 10^{-9}	0.300	1.5 10^{-9}	7.0 10^{-10}	4.3 10^{-10}	2.3 10^{-10}	1.9 10^{-10}
W-188	69.4 d	F	0.600	7.1 10^{-9}	0.300	5.0 10^{-9}	2.2 10^{-9}	1.3 10^{-9}	6.8 10^{-10}	5.7 10^{-10}
Rhenium										
Re-177	0.233 h	F	1.000	9.4 10^{-11}	0.800	6.7 10^{-11}	3.2 10^{-11}	1.9 10^{-11}	1.2 10^{-11}	9.7 10^{-12}
		M	1.000	1.1 10^{-10}	0.800	7.9 10^{-11}	3.9 10^{-11}	2.5 10^{-11}	1.7 10^{-11}	1.4 10^{-11}
Re-178	0.220 h	F	1.000	9.9 10^{-11}	0.800	6.8 10^{-11}	3.1 10^{-11}	1.9 10^{-11}	1.2 10^{-11}	1.0 10^{-11}
		M	1.000	1.3 10^{-10}	0.800	8.5 10^{-11}	3.9 10^{-11}	2.6 10^{-11}	1.7 10^{-11}	1.4 10^{-11}
Re-181	20.0 h	F	1.000	2.0 10^{-9}	0.800	1.4 10^{-9}	6.7 10^{-10}	3.8 10^{-10}	2.3 10^{-10}	1.8 10^{-10}
		M	1.000	2.1 10^{-9}	0.800	1.5 10^{-9}	7.4 10^{-10}	4.6 10^{-10}	3.1 10^{-10}	2.5 10^{-10}
Re-182	2.67 d	F	1.000	6.5 10^{-9}	0.800	4.7 10^{-9}	2.2 10^{-9}	1.3 10^{-9}	8.0 10^{-10}	6.4 10^{-10}
		M	1.000	8.7 10^{-9}	0.800	6.3 10^{-9}	3.4 10^{-9}	2.2 10^{-9}	1.5 10^{-9}	1.2 10^{-9}
Re-182	12.7 h	F	1.000	1.3 10^{-9}	0.800	1.0 10^{-9}	4.9 10^{-10}	2.8 10^{-10}	1.7 10^{-10}	1.4 10^{-10}
		M	1.000	1.4 10^{-9}	0.800	1.1 10^{-9}	5.7 10^{-10}	3.6 10^{-10}	2.5 10^{-10}	2.0 10^{-10}
Re-184	38.0 d	F	1.000	4.1 10^{-9}	0.800	2.9 10^{-9}	1.4 10^{-9}	8.6 10^{-10}	5.4 10^{-10}	4.4 10^{-10}
		M	1.000	9.1 10^{-9}	0.800	6.8 10^{-9}	4.0 10^{-9}	2.8 10^{-9}	2.4 10^{-9}	1.9 10^{-9}
Re-184m	165 d	F	1.000	6.6 10^{-9}	0.800	4.6 10^{-9}	2.0 10^{-9}	1.2 10^{-9}	7.3 10^{-10}	5.9 10^{-10}
		M	1.000	2.9 10^{-8}	0.800	2.2 10^{-8}	1.3 10^{-8}	9.3 10^{-9}	8.1 10^{-9}	6.5 10^{-9}
Re-186	3.78 d	F	1.000	7.3 10^{-9}	0.800	4.7 10^{-9}	2.0 10^{-9}	1.1 10^{-9}	6.6 10^{-10}	5.2 10^{-10}
		M	1.000	8.7 10^{-9}	0.800	5.7 10^{-9}	2.8 10^{-9}	1.8 10^{-9}	1.4 10^{-9}	1.1 10^{-9}
Re-186 m	2.00 10^{5} a	F	1.000	1.2 10^{-8}	0.800	7.0 10^{-9}	2.9 10^{-9}	1.7 10^{-9}	1.0 10^{-9}	8.3 10^{-10}
		M	1.000	5.9 10^{-8}	0.800	4.6 10^{-8}	2.7 10^{-8}	1.8 10^{-8}	1.4 10^{-8}	1.2 10^{-8}
Re-187	5.00 10^{10} a	F	1.000	2.6 10^{-11}	0.800	1.6 10^{-11}	6.8 10^{-12}	3.8 10^{-12}	2.3 10^{-12}	1.8 10^{-12}
		M	1.000	5.7 10^{-11}	0.800	4.1 10^{-11}	2.0 10^{-11}	1.2 10^{-11}	7.5 10^{-12}	6.3 10^{-12}
Re-188	17.0 h	F	1.000	6.5 10^{-9}	0.800	4.4 10^{-9}	1.9 10^{-9}	1.0 10^{-9}	6.1 10^{-10}	4.6 10^{-10}
		M	1.000	6.0 10^{-9}	0.800	4.0 10^{-9}	1.8 10^{-9}	1.0 10^{-9}	6.8 10^{-10}	5.4 10^{-10}
Re-188m	0.310 h	F	1.000	1.4 10^{-10}	0.800	9.1 10^{-11}	4.0 10^{-11}	2.1 10^{-11}	1.3 10^{-11}	1.0 10^{-11}
		M	1.000	1.3 10^{-10}	0.800	8.6 10^{-11}	4.0 10^{-11}	2.7 10^{-11}	1.6 10^{-11}	1.3 10^{-11}
Re-189	1.01 d	F	1.000	3.7 10^{-9}	0.800	2.5 10^{-9}	1.1 10^{-9}	5.8 10^{-10}	3.5 10^{-10}	2.7 10^{-10}
		M	1.000	3.9 10^{-9}	0.800	2.6 10^{-9}	1.2 10^{-9}	7.6 10^{-10}	5.5 10^{-10}	4.3 10^{-10}

TABLE B (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for inhaled radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Lung absorp-tion type	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
			f_1 for $g \leq 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Osmium										
Os-180	0.366 h	F	0.020	7.1 10^{-11}	0.010	5.3 10^{-11}	2.6 10^{-11}	1.6 10^{-11}	1.0 10^{-11}	8.2 10^{-12}
		M	0.020	1.1 10^{-10}	0.010	7.9 10^{-11}	3.9 10^{-11}	2.5 10^{-11}	1.7 10^{-11}	1.4 10^{-11}
		S	0.020	1.1 10^{-10}	0.010	8.2 10^{-11}	4.1 10^{-11}	2.6 10^{-11}	1.8 10^{-11}	1.5 10^{-11}
Os-181	1.75 h	F	0.020	3.0 10^{-10}	0.010	2.3 10^{-10}	1.1 10^{-10}	7.0 10^{-11}	4.1 10^{-11}	3.3 10^{-11}
		M	0.020	4.5 10^{-10}	0.010	3.4 10^{-10}	1.8 10^{-10}	1.1 10^{-10}	7.6 10^{-11}	6.2 10^{-11}
		S	0.020	4.7 10^{-10}	0.010	3.6 10^{-10}	1.8 10^{-10}	1.2 10^{-10}	8.1 10^{-11}	6.5 10^{-11}
Os-182	22.0 h	F	0.020	1.6 10^{-9}	0.010	1.2 10^{-9}	6.0 10^{-10}	3.7 10^{-10}	2.1 10^{-10}	1.7 10^{-10}
		M	0.020	2.5 10^{-9}	0.010	1.9 10^{-9}	1.0 10^{-9}	6.6 10^{-10}	4.5 10^{-10}	3.6 10^{-10}
		S	0.020	2.6 10^{-9}	0.010	2.0 10^{-9}	1.0 10^{-9}	6.9 10^{-10}	4.8 10^{-10}	3.8 10^{-10}
Os-185	94.0 d	F	0.020	7.2 10^{-9}	0.010	5.8 10^{-9}	3.1 10^{-9}	1.9 10^{-9}	1.2 10^{-9}	1.1 10^{-9}
		M	0.020	6.6 10^{-9}	0.010	5.4 10^{-9}	2.9 10^{-9}	2.0 10^{-9}	1.5 10^{-9}	1.3 10^{-9}
		S	0.020	7.0 10^{-9}	0.010	5.8 10^{-9}	3.6 10^{-9}	2.4 10^{-9}	1.9 10^{-9}	1.6 10^{-9}
Os-189m	6.00 h	F	0.020	3.8 10^{-11}	0.010	2.8 10^{-11}	1.2 10^{-11}	7.0 10^{-12}	3.5 10^{-12}	2.5 10^{-12}
		M	0.020	6.5 10^{-11}	0.010	4.1 10^{-11}	1.8 10^{-11}	1.1 10^{-11}	6.0 10^{-12}	5.0 10^{-12}
		S	0.020	6.8 10^{-11}	0.010	4.3 10^{-11}	1.9 10^{-11}	1.2 10^{-11}	6.3 10^{-12}	5.3 10^{-12}
Os-191	15.4 d	F	0.020	2.8 10^{-9}	0.010	1.9 10^{-9}	8.5 10^{-10}	5.3 10^{-10}	3.0 10^{-10}	2.5 10^{-10}
		M	0.020	8.0 10^{-9}	0.010	5.8 10^{-9}	3.4 10^{-9}	2.4 10^{-9}	2.0 10^{-9}	1.7 10^{-9}
		S	0.020	9.0 10^{-9}	0.010	6.5 10^{-9}	3.9 10^{-9}	2.7 10^{-9}	2.3 10^{-9}	1.9 10^{-9}
Os-191m	13.0 h	F	0.020	3.0 10^{-10}	0.010	2.0 10^{-10}	8.8 10^{-11}	5.4 10^{-11}	2.9 10^{-11}	2.4 10^{-11}
		M	0.020	7.8 10^{-10}	0.010	5.4 10^{-10}	3.1 10^{-10}	2.1 10^{-10}	1.7 10^{-10}	1.4 10^{-10}
		S	0.020	8.5 10^{-10}	0.010	6.0 10^{-10}	3.4 10^{-10}	2.4 10^{-10}	2.0 10^{-10}	1.6 10^{-10}
Os-193	1.25 d	F	0.020	1.9 10^{-9}	0.010	1.2 10^{-9}	5.2 10^{-10}	3.2 10^{-10}	1.8 10^{-10}	1.6 10^{-10}
		M	0.020	3.8 10^{-9}	0.010	2.6 10^{-9}	1.3 10^{-9}	8.4 10^{-10}	5.9 10^{-10}	4.8 10^{-10}
		S	0.020	4.0 10^{-9}	0.010	2.7 10^{-9}	1.3 10^{-9}	9.0 10^{-10}	6.4 10^{-10}	5.2 10^{-10}
Os-194	6.00 a	F	0.020	8.7 10^{-8}	0.010	6.8 10^{-8}	3.4 10^{-8}	2.1 10^{-8}	1.3 10^{-8}	1.1 10^{-8}
		M	0.020	9.9 10^{-8}	0.010	8.3 10^{-8}	4.8 10^{-8}	3.1 10^{-8}	2.4 10^{-8}	2.1 10^{-8}
		S	0.020	2.6 10^{-7}	0.010	2.4 10^{-7}	1.6 10^{-7}	1.1 10^{-7}	8.8 10^{-8}	8.5 10^{-8}
Iridium										
Ir-182	0.250 h	F	0.020	1.4 10^{-10}	0.010	9.8 10^{-11}	4.5 10^{-11}	2.8 10^{-11}	1.7 10^{-11}	1.4 10^{-11}
		M	0.020	2.1 10^{-10}	0.010	1.4 10^{-10}	6.7 10^{-11}	4.3 10^{-11}	2.8 10^{-11}	2.3 10^{-11}
		S	0.020	2.2 10^{-10}	0.010	1.5 10^{-10}	6.9 10^{-11}	4.4 10^{-11}	2.9 10^{-11}	2.4 10^{-11}
Ir-184	3.02 h	F	0.020	5.7 10^{-10}	0.010	4.4 10^{-10}	2.1 10^{-10}	1.3 10^{-10}	7.6 10^{-11}	6.2 10^{-11}
		M	0.020	8.6 10^{-10}	0.010	6.4 10^{-10}	3.2 10^{-10}	2.1 10^{-10}	1.4 10^{-10}	1.1 10^{-10}
		S	0.020	8.9 10^{-10}	0.010	6.6 10^{-10}	3.4 10^{-10}	2.2 10^{-10}	1.4 10^{-10}	1.2 10^{-10}
Ir-185	14.0 h	F	0.020	8.0 10^{-10}	0.010	6.1 10^{-10}	2.9 10^{-10}	1.8 10^{-10}	1.0 10^{-10}	8.2 10^{-11}
		M	0.020	1.3 10^{-9}	0.010	9.7 10^{-10}	4.9 10^{-10}	3.2 10^{-10}	2.2 10^{-10}	1.8 10^{-10}
		S	0.020	1.4 10^{-9}	0.010	1.0 10^{-9}	5.2 10^{-10}	3.4 10^{-10}	2.3 10^{-10}	1.9 10^{-10}
Ir-186	15.8 h	F	0.020	1.5 10^{-9}	0.010	1.2 10^{-9}	5.9 10^{-10}	3.6 10^{-10}	2.1 10^{-10}	1.7 10^{-10}
		M	0.020	2.2 10^{-9}	0.010	1.7 10^{-9}	8.8 10^{-10}	5.8 10^{-10}	3.8 10^{-10}	3.1 10^{-10}
		S	0.020	2.3 10^{-9}	0.010	1.8 10^{-9}	9.2 10^{-10}	6.0 10^{-10}	4.0 10^{-10}	3.2 10^{-10}
Ir-186	1.75 h	F	0.020	2.1 10^{-10}	0.010	1.6 10^{-10}	7.7 10^{-11}	4.8 10^{-11}	2.8 10^{-11}	2.3 10^{-11}
		M	0.020	3.3 10^{-10}	0.010	2.4 10^{-10}	1.2 10^{-10}	7.7 10^{-11}	5.1 10^{-11}	4.2 10^{-11}
		S	0.020	3.4 10^{-10}	0.010	2.5 10^{-10}	1.2 10^{-10}	8.1 10^{-11}	5.4 10^{-11}	4.4 10^{-11}
Ir-187	10.5 h	F	0.020	3.6 10^{-10}	0.010	2.8 10^{-10}	1.4 10^{-10}	8.2 10^{-11}	4.6 10^{-11}	3.7 10^{-11}
		M	0.020	5.8 10^{-10}	0.010	4.3 10^{-10}	2.2 10^{-10}	1.4 10^{-10}	9.2 10^{-11}	7.4 10^{-11}
		S	0.020	6.0 10^{-10}	0.010	4.5 10^{-10}	2.3 10^{-10}	1.5 10^{-10}	9.7 10^{-11}	7.9 10^{-11}
Ir-188	1.73 d	F	0.020	2.0 10^{-9}	0.010	1.6 10^{-9}	8.0 10^{-10}	5.0 10^{-10}	2.9 10^{-10}	2.4 10^{-10}
		M	0.020	2.7 10^{-9}	0.010	2.1 10^{-9}	1.1 10^{-9}	7.5 10^{-10}	5.0 10^{-10}	4.0 10^{-10}
		S	0.020	2.8 10^{-9}	0.010	2.2 10^{-9}	1.2 10^{-9}	7.8 10^{-10}	5.2 10^{-10}	4.2 10^{-10}
Ir-189	13.3 d	F	0.020	1.2 10^{-9}	0.010	8.2 10^{-10}	3.8 10^{-10}	2.4 10^{-10}	1.3 10^{-10}	1.1 10^{-10}
		M	0.020	2.7 10^{-9}	0.010	1.9 10^{-9}	1.1 10^{-9}	7.7 10^{-10}	6.4 10^{-10}	5.2 10^{-10}
		S	0.020	3.0 10^{-9}	0.010	2.2 10^{-9}	1.3 10^{-9}	8.7 10^{-10}	7.3 10^{-10}	6.0 10^{-10}
Ir-190	12.1 d	F	0.020	6.2 10^{-9}	0.010	4.7 10^{-9}	2.4 10^{-9}	1.5 10^{-9}	9.1 10^{-10}	7.7 10^{-10}
		M	0.020	1.1 10^{-8}	0.010	8.6 10^{-9}	4.4 10^{-9}	3.1 10^{-9}	2.7 10^{-9}	2.1 10^{-9}
		S	0.020	1.1 10^{-8}	0.010	9.4 10^{-9}	4.8 10^{-9}	3.5 10^{-9}	3.0 10^{-9}	2.4 10^{-9}
Ir-190m	3.10 h	F	0.020	4.2 10^{-10}	0.010	3.4 10^{-10}	1.7 10^{-10}	1.0 10^{-10}	6.0 10^{-11}	4.9 10^{-11}
		M	0.020	6.0 10^{-10}	0.010	4.7 10^{-10}	2.4 10^{-10}	1.5 10^{-10}	9.9 10^{-11}	7.9 10^{-11}
		S	0.020	6.2 10^{-10}	0.010	4.8 10^{-10}	2.5 10^{-10}	1.6 10^{-10}	1.0 10^{-10}	8.3 10^{-11}
Ir-190m	1.20 h	F	0.020	3.2 10^{-11}	0.010	2.4 10^{-11}	1.2 10^{-11}	7.2 10^{-12}	4.3 10^{-12}	3.6 10^{-12}
		M	0.020	5.7 10^{-11}	0.010	4.2 10^{-11}	2.0 10^{-11}	1.4 10^{-11}	1.2 10^{-11}	9.3 10^{-12}
		S	0.020	5.5 10^{-11}	0.010	4.5 10^{-11}	2.2 10^{-11}	1.6 10^{-11}	1.3 10^{-11}	1.0 10^{-11}
Ir-192	74.0 d	F	0.020	1.5 10^{-8}	0.010	1.1 10^{-8}	5.7 10^{-9}	3.3 10^{-9}	2.1 10^{-9}	1.8 10^{-9}
		M	0.020	2.3 10^{-8}	0.010	1.8 10^{-8}	1.1 10^{-8}	7.6 10^{-9}	6.4 10^{-9}	5.2 10^{-9}
		S	0.020	2.8 10^{-8}	0.010	2.2 10^{-8}	1.3 10^{-8}	9.5 10^{-9}	8.1 10^{-9}	6.6 10^{-9}

TABLE B (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for inhaled radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Lung absorption type	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
			f_1 for $g \le 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Ir-192m	$2.41\ 10^{2}$ a	F	0.020	$2.7\ 10^{-8}$	0.010	$2.3\ 10^{-8}$	$1.4\ 10^{-8}$	$8.2\ 10^{-9}$	$5.4\ 10^{-9}$	$4.8\ 10^{-9}$
		M	0.020	$2.3\ 10^{-8}$	0.010	$2.1\ 10^{-8}$	$1.3\ 10^{-8}$	$8.4\ 10^{-9}$	$6.6\ 10^{-9}$	$5.8\ 10^{-9}$
		S	0.020	$9.2\ 10^{-8}$	0.010	$9.1\ 10^{-8}$	$6.5\ 10^{-8}$	$4.5\ 10^{-8}$	$4.0\ 10^{-8}$	$3.9\ 10^{-8}$
Ir-193m	11.9 d	F	0.020	$1.2\ 10^{-9}$	0.010	$8.4\ 10^{-10}$	$3.7\ 10^{-10}$	$2.2\ 10^{-10}$	$1.2\ 10^{-10}$	$1.0\ 10^{-10}$
		M	0.020	$4.8\ 10^{-9}$	0.010	$3.5\ 10^{-9}$	$2.1\ 10^{-9}$	$1.5\ 10^{-9}$	$1.4\ 10^{-9}$	$1.1\ 10^{-9}$
		S	0.020	$5.4\ 10^{-9}$	0.010	$4.0\ 10^{-9}$	$2.4\ 10^{-9}$	$1.8\ 10^{-9}$	$1.6\ 10^{-9}$	$1.3\ 10^{-9}$
Ir-194	19.1 h	F	0.020	$2.9\ 10^{-9}$	0.010	$1.9\ 10^{-9}$	$8.1\ 10^{-10}$	$4.9\ 10^{-10}$	$2.5\ 10^{-10}$	$2.1\ 10^{-10}$
		M	0.020	$5.3\ 10^{-9}$	0.010	$3.5\ 10^{-9}$	$1.6\ 10^{-9}$	$1.0\ 10^{-9}$	$6.3\ 10^{-10}$	$5.2\ 10^{-10}$
		S	0.020	$5.5\ 10^{-9}$	0.010	$3.7\ 10^{-9}$	$1.7\ 10^{-9}$	$1.1\ 10^{-9}$	$6.7\ 10^{-10}$	$5.6\ 10^{-10}$
Ir-194m	171 d	F	0.020	$3.4\ 10^{-8}$	0.010	$2.7\ 10^{-8}$	$1.4\ 10^{-8}$	$9.5\ 10^{-9}$	$6.2\ 10^{-9}$	$5.4\ 10^{-9}$
		M	0.020	$3.9\ 10^{-8}$	0.010	$3.2\ 10^{-8}$	$1.9\ 10^{-8}$	$1.3\ 10^{-8}$	$1.1\ 10^{-8}$	$9.0\ 10^{-9}$
		S	0.020	$5.0\ 10^{-8}$	0.010	$4.2\ 10^{-8}$	$2.6\ 10^{-8}$	$1.8\ 10^{-8}$	$1.5\ 10^{-8}$	$1.3\ 10^{-8}$
Ir-195	2.50 h	F	0.020	$2.9\ 10^{-10}$	0.010	$1.9\ 10^{-10}$	$8.1\ 10^{-11}$	$5.1\ 10^{-11}$	$2.9\ 10^{-11}$	$2.4\ 10^{-11}$
		M	0.020	$5.4\ 10^{-10}$	0.010	$3.6\ 10^{-10}$	$1.7\ 10^{-10}$	$1.1\ 10^{-10}$	$8.1\ 10^{-11}$	$6.7\ 10^{-11}$
		S	0.020	$5.7\ 10^{-10}$	0.010	$3.8\ 10^{-10}$	$1.8\ 10^{-10}$	$1.2\ 10^{-10}$	$8.7\ 10^{-11}$	$7.1\ 10^{-11}$
Ir-195m	3.80 h	F	0.020	$6.9\ 10^{-10}$	0.010	$4.8\ 10^{-10}$	$2.1\ 10^{-10}$	$1.3\ 10^{-10}$	$7.2\ 10^{-11}$	$6.0\ 10^{-11}$
		M	0.020	$1.2\ 10^{-9}$	0.010	$8.6\ 10^{-10}$	$4.2\ 10^{-10}$	$2.7\ 10^{-10}$	$1.9\ 10^{-10}$	$1.6\ 10^{-10}$
		S	0.020	$1.3\ 10^{-9}$	0.010	$9.0\ 10^{-10}$	$4.4\ 10^{-10}$	$2.9\ 10^{-10}$	$2.0\ 10^{-10}$	$1.7\ 10^{-10}$
Platinum										
Pt-186	2.00 h	F	0.020	$3.0\ 10^{-10}$	0.010	$2.4\ 10^{-10}$	$1.2\ 10^{-10}$	$7.2\ 10^{-11}$	$4.1\ 10^{-11}$	$3.3\ 10^{-11}$
Pt-188	10.2 d	F	0.020	$3.6\ 10^{-9}$	0.010	$2.7\ 10^{-9}$	$1.3\ 10^{-9}$	$8.4\ 10^{-10}$	$5.0\ 10^{-10}$	$4.2\ 10^{-10}$
Pt-189	10.9 h	F	0.020	$3.8\ 10^{-10}$	0.010	$2.9\ 10^{-10}$	$1.4\ 10^{-10}$	$8.4\ 10^{-11}$	$4.7\ 10^{-11}$	$3.8\ 10^{-11}$
Pt-191	2.80 d	F	0.020	$1.1\ 10^{-9}$	0.010	$7.9\ 10^{-10}$	$3.7\ 10^{-10}$	$2.3\ 10^{-10}$	$1.3\ 10^{-10}$	$1.1\ 10^{-10}$
Pt-193	50.0 a	F	0.020	$2.2\ 10^{-10}$	0.010	$1.6\ 10^{-10}$	$7.2\ 10^{-11}$	$4.3\ 10^{-11}$	$2.5\ 10^{-11}$	$2.1\ 10^{-11}$
Pt-193m	4.33 d	F	0.020	$1.6\ 10^{-9}$	0.010	$1.0\ 10^{-9}$	$4.5\ 10^{-10}$	$2.7\ 10^{-10}$	$1.4\ 10^{-10}$	$1.2\ 10^{-10}$
Pt-195m	4.02 d	F	0.020	$2.2\ 10^{-9}$	0.010	$1.5\ 10^{-9}$	$6.4\ 10^{-10}$	$3.9\ 10^{-10}$	$2.1\ 10^{-10}$	$1.8\ 10^{-10}$
Pt-197	18.3 h	F	0.020	$1.1\ 10^{-9}$	0.010	$7.3\ 10^{-10}$	$3.1\ 10^{-10}$	$1.9\ 10^{-10}$	$1.0\ 10^{-10}$	$8.5\ 10^{-11}$
Pt-197m	1.57 h	F	0.020	$2.8\ 10^{-10}$	0.010	$1.8\ 10^{-10}$	$7.9\ 10^{-11}$	$4.9\ 10^{-11}$	$2.8\ 10^{-11}$	$2.4\ 10^{-11}$
Pt-199	0.513 h	F	0.020	$1.3\ 10^{-10}$	0.010	$8.3\ 10^{-11}$	$3.6\ 10^{-11}$	$2.3\ 10^{-11}$	$1.4\ 10^{-11}$	$1.2\ 10^{-11}$
Pt-200	12.5 h	F	0.020	$2.6\ 10^{-9}$	0.010	$1.7\ 10^{-9}$	$7.2\ 10^{-10}$	$5.1\ 10^{-10}$	$2.6\ 10^{-10}$	$2.2\ 10^{-10}$
Gold										
Au-193	17.6 h	F	0.200	$3.7\ 10^{-10}$	0.100	$2.8\ 10^{-10}$	$1.3\ 10^{-10}$	$7.9\ 10^{-11}$	$4.3\ 10^{-11}$	$3.6\ 10^{-11}$
		M	0.200	$7.5\ 10^{-10}$	0.100	$5.6\ 10^{-10}$	$2.8\ 10^{-10}$	$1.9\ 10^{-10}$	$1.4\ 10^{-10}$	$1.1\ 10^{-10}$
		S	0.200	$7.9\ 10^{-10}$	0.100	$5.9\ 10^{-10}$	$3.0\ 10^{-10}$	$2.0\ 10^{-10}$	$1.5\ 10^{-10}$	$1.2\ 10^{-10}$
Au-194	1.65 d	F	0.200	$1.2\ 10^{-9}$	0.100	$9.6\ 10^{-10}$	$4.9\ 10^{-10}$	$3.0\ 10^{-10}$	$1.8\ 10^{-10}$	$1.4\ 10^{-10}$
		M	0.200	$1.7\ 10^{-9}$	0.100	$1.4\ 10^{-9}$	$7.1\ 10^{-10}$	$4.6\ 10^{-10}$	$2.9\ 10^{-10}$	$2.3\ 10^{-10}$
		S	0.200	$1.7\ 10^{-9}$	0.100	$1.4\ 10^{-9}$	$7.3\ 10^{-10}$	$4.7\ 10^{-10}$	$3.0\ 10^{-10}$	$2.4\ 10^{-10}$
Au-195	183 d	F	0.200	$7.2\ 10^{-10}$	0.100	$5.3\ 10^{-10}$	$2.5\ 10^{-10}$	$1.5\ 10^{-10}$	$8.1\ 10^{-11}$	$6.6\ 10^{-11}$
		M	0.200	$5.2\ 10^{-9}$	0.100	$4.1\ 10^{-9}$	$2.4\ 10^{-9}$	$1.6\ 10^{-9}$	$1.4\ 10^{-9}$	$1.1\ 10^{-9}$
		S	0.200	$8.1\ 10^{-9}$	0.100	$6.6\ 10^{-9}$	$3.9\ 10^{-9}$	$2.6\ 10^{-9}$	$2.1\ 10^{-9}$	$1.7\ 10^{-9}$
Au-198	2.69 d	F	0.200	$2.4\ 10^{-9}$	0.100	$1.7\ 10^{-9}$	$7.6\ 10^{-10}$	$4.7\ 10^{-10}$	$2.5\ 10^{-10}$	$2.1\ 10^{-10}$
		M	0.200	$5.0\ 10^{-9}$	0.100	$4.1\ 10^{-9}$	$1.9\ 10^{-9}$	$1.3\ 10^{-9}$	$9.7\ 10^{-10}$	$7.8\ 10^{-10}$
		S	0.200	$5.4\ 10^{-9}$	0.100	$4.4\ 10^{-9}$	$2.0\ 10^{-9}$	$1.4\ 10^{-9}$	$1.1\ 10^{-9}$	$8.6\ 10^{-10}$
Au-198m	2.30 d	F	0.200	$3.3\ 10^{-9}$	0.100	$2.4\ 10^{-9}$	$1.1\ 10^{-9}$	$6.9\ 10^{-10}$	$3.7\ 10^{-10}$	$3.2\ 10^{-10}$
		M	0.200	$8.7\ 10^{-9}$	0.100	$6.5\ 10^{-9}$	$3.6\ 10^{-9}$	$2.6\ 10^{-9}$	$2.2\ 10^{-9}$	$1.8\ 10^{-9}$
		S	0.200	$9.5\ 10^{-9}$	0.100	$7.1\ 10^{-9}$	$4.0\ 10^{-9}$	$2.9\ 10^{-9}$	$2.5\ 10^{-9}$	$2.0\ 10^{-9}$
Au-199	3.14 d	F	0.200	$1.1\ 10^{-9}$	0.100	$7.9\ 10^{-10}$	$3.5\ 10^{-10}$	$2.2\ 10^{-10}$	$1.1\ 10^{-10}$	$9.8\ 10^{-11}$
		M	0.200	$3.4\ 10^{-9}$	0.100	$2.5\ 10^{-9}$	$1.4\ 10^{-9}$	$1.0\ 10^{-9}$	$9.0\ 10^{-10}$	$7.1\ 10^{-10}$
		S	0.200	$3.8\ 10^{-9}$	0.100	$2.8\ 10^{-9}$	$1.6\ 10^{-9}$	$1.2\ 10^{-9}$	$1.0\ 10^{-9}$	$7.9\ 10^{-10}$
Au-200	0.807 h	F	0.200	$1.9\ 10^{-10}$	0.100	$1.2\ 10^{-10}$	$5.2\ 10^{-11}$	$3.2\ 10^{-11}$	$1.9\ 10^{-11}$	$1.6\ 10^{-11}$
		M	0.200	$3.2\ 10^{-10}$	0.100	$2.1\ 10^{-10}$	$9.3\ 10^{-11}$	$6.0\ 10^{-11}$	$4.0\ 10^{-11}$	$3.3\ 10^{-11}$
		S	0.200	$3.4\ 10^{-10}$	0.100	$2.1\ 10^{-10}$	$9.8\ 10^{-11}$	$6.3\ 10^{-11}$	$4.2\ 10^{-11}$	$3.5\ 10^{-11}$
Au-200m	18.7 h	F	0.200	$2.7\ 10^{-9}$	0.100	$2.1\ 10^{-9}$	$1.0\ 10^{-9}$	$6.4\ 10^{-10}$	$3.6\ 10^{-10}$	$2.9\ 10^{-10}$
		M	0.200	$4.8\ 10^{-9}$	0.100	$3.7\ 10^{-9}$	$1.9\ 10^{-9}$	$1.2\ 10^{-9}$	$8.4\ 10^{-10}$	$6.8\ 10^{-10}$
		S	0.200	$5.1\ 10^{-9}$	0.100	$3.9\ 10^{-9}$	$2.0\ 10^{-9}$	$1.3\ 10^{-9}$	$8.9\ 10^{-10}$	$7.2\ 10^{-10}$
Au-201	0.440 h	F	0.200	$9.0\ 10^{-11}$	0.100	$5.7\ 10^{-11}$	$2.5\ 10^{-11}$	$1.6\ 10^{-11}$	$1.0\ 10^{-11}$	$8.7\ 10^{-12}$
		M	0.200	$1.5\ 10^{-10}$	0.100	$9.6\ 10^{-11}$	$4.3\ 10^{-11}$	$2.9\ 10^{-11}$	$2.0\ 10^{-11}$	$1.7\ 10^{-11}$
		S	0.200	$1.5\ 10^{-10}$	0.100	$1.0\ 10^{-10}$	$4.5\ 10^{-11}$	$3.0\ 10^{-11}$	$2.1\ 10^{-11}$	$1.7\ 10^{-11}$
Mercury										
Hg-193 (organic)	3.50 h	F	0.800	$2.2\ 10^{-10}$	0.400	$1.8\ 10^{-10}$	$8.2\ 10^{-11}$	$5.0\ 10^{-11}$	$2.9\ 10^{-11}$	$2.4\ 10^{-11}$
Hg-193 (inorganic)	3.50 h	F	0.040	$2.7\ 10^{-10}$	0.020	$2.0\ 10^{-10}$	$8.9\ 10^{-11}$	$5.5\ 10^{-11}$	$3.1\ 10^{-11}$	$2.6\ 10^{-11}$
		M	0.040	$5.3\ 10^{-10}$	0.020	$3.8\ 10^{-10}$	$1.9\ 10^{-10}$	$1.3\ 10^{-10}$	$9.2\ 10^{-11}$	$7.5\ 10^{-11}$

TABLE B (continues)

Values of dose conversion factors $h(g)$ ($Sv \cdot Bq^{-1}$) for inhaled radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Lung absorp-tion type	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
			f_1 for $g \le 1$ a	$h(g)$	f_1 for $g > 1$ a	$h(g)$	$h(g)$	$h(g)$	$h(g)$	$h(g)$
Hg-193m (organic)	11.1 h	F	0.800	8.4 10^{-10}	0.400	7.6 10^{-10}	3.7 10^{-10}	2.2 10^{-10}	1.3 10^{-10}	1.0 10^{-10}
Hg-193m (inorganic)	11.1 h	F	0.040	1.1 10^{-9}	0.020	8.5 10^{-10}	4.1 10^{-10}	2.5 10^{-10}	1.4 10^{-10}	1.1 10^{-10}
		M	0.040	1.9 10^{-9}	0.020	1.4 10^{-9}	7.2 10^{-10}	4.7 10^{-10}	3.2 10^{-10}	2.6 10^{-10}
Hg-194 (organic)	2.60 10^{2} a	F	0.800	4.9 10^{-8}	0.400	3.7 10^{-8}	2.4 10^{-8}	1.9 10^{-8}	1.5 10^{-8}	1.4 10^{-8}
Hg-194 (inorganic)	2.60 10^{2} a	F	0.040	3.2 10^{-8}	0.020	2.9 10^{-8}	2.0 10^{-8}	1.6 10^{-8}	1.4 10^{-8}	1.3 10^{-8}
		M	0.040	2.1 10^{-8}	0.020	1.9 10^{-8}	1.3 10^{-8}	1.0 10^{-8}	8.9 10^{-9}	8.3 10^{-9}
Hg-195 (organic)	9.90 h	F	0.800	2.0 10^{-10}	0.400	1.8 10^{-11}	8.5 10^{-10}	5.1 10^{-11}	2.8 10^{-11}	2.3 10^{-11}
Hg-195 (inorganic)	9.90 h	F	0.040	2.7 10^{-10}	0.020	2.0 10^{-10}	9.5 10^{-11}	5.7 10^{-11}	3.1 10^{-11}	2.5 10^{-11}
		M	0.040	5.3 10^{-10}	0.020	3.9 10^{-10}	2.0 10^{-10}	1.3 10^{-10}	9.0 10^{-11}	7.3 10^{-11}
Hg-195m (organic)	1.73 d	F	0.800	1.1 10^{-9}	0.400	9.7 10^{-10}	4.4 10^{-10}	2.7 10^{-10}	1.4 10^{-10}	1.2 10^{-10}
Hg-195m (inorganic)	1.73 d	F	0.040	1.6 10^{-9}	0.020	1.1 10^{-9}	5.1 10^{-10}	3.1 10^{-10}	1.7 10^{-10}	1.4 10^{-10}
		M	0.040	3.7 10^{-9}	0.020	2.6 10^{-9}	1.4 10^{-9}	8.5 10^{-10}	6.7 10^{-10}	5.3 10^{-10}
Hg-197 (organic)	2.67 d	F	0.800	4.7 10^{-10}	0.400	4.0 10^{-10}	1.8 10^{-10}	1.1 10^{-10}	5.8 10^{-11}	4.7 10^{-11}
Hg-197 (inorganic)	2.67 d	F	0.040	6.8 10^{-10}	0.020	4.7 10^{-10}	2.1 10^{-10}	1.3 10^{-10}	6.8 10^{-11}	5.6 10^{-11}
		M	0.040	1.7 10^{-9}	0.020	1.2 10^{-9}	6.6 10^{-10}	4.6 10^{-10}	3.8 10^{-10}	3.0 10^{-10}
Hg-197m (organic)	23.8 h	F	0.800	9.3 10^{-10}	0.400	7.8 10^{-10}	3.4 10^{-10}	2.1 10^{-10}	1.1 10^{-10}	9.6 10^{-11}
Hg-197m (inorganic)	23.8 h	F	0.040	1.4 10^{-9}	0.020	9.3 10^{-10}	4.0 10^{-10}	2.5 10^{-10}	1.3 10^{-10}	1.1 10^{-10}
		M	0.040	3.5 10^{-9}	0.020	2.5 10^{-9}	1.1 10^{-9}	8.2 10^{-10}	6.7 10^{-10}	5.3 10^{-10}
Hg-199m (organic)	0.710 h	F	0.800	1.4 10^{-10}	0.400	9.6 10^{-11}	4.2 10^{-11}	2.7 10^{-11}	1.7 10^{-11}	1.5 10^{-11}
Hg-199m (inorganic)	0.710 h	F	0.040	1.4 10^{-10}	0.020	9.6 10^{-11}	4.2 10^{-11}	2.7 10^{-11}	1.7 10^{-11}	1.5 10^{-11}
		M	0.040	2.5 10^{-10}	0.020	1.7 10^{-10}	7.9 10^{-11}	5.4 10^{-11}	3.8 10^{-11}	3.2 10^{-11}
Hg-203 (organic)	46.6 d	F	0.800	5.7 10^{-9}	0.400	3.7 10^{-9}	1.7 10^{-9}	1.1 10^{-9}	6.6 10^{-10}	5.6 10^{-10}
Hg-203 (inorganic)	46.6 d	F	0.040	4.2 10^{-9}	0.020	2.9 10^{-9}	1.4 10^{-9}	9.0 10^{-10}	5.5 10^{-10}	4.6 10^{-10}
		M	0.040	1.0 10^{-8}	0.020	7.9 10^{-9}	4.7 10^{-9}	3.4 10^{-9}	3.0 10^{-9}	2.4 10^{-9}
Thallium										
Tl-194	0.550 h	F	1.000	3.6 10^{-11}	1.000	3.0 10^{-11}	1.5 10^{-11}	9.2 10^{-12}	5.5 10^{-12}	4.4 10^{-12}
Tl-194m	0.546 h	F	1.000	1.7 10^{-10}	1.000	1.2 10^{-10}	6.1 10^{-11}	3.8 10^{-11}	2.3 10^{-11}	1.9 10^{-11}
Tl-195	1.16 h	F	1.000	1.3 10^{-10}	1.000	1.0 10^{-10}	5.3 10^{-11}	3.2 10^{-11}	1.9 10^{-11}	1.5 10^{-11}
Tl-197	2.84 h	F	1.000	1.3 10^{-10}	1.000	9.7 10^{-11}	4.7 10^{-11}	2.9 10^{-11}	1.7 10^{-11}	1.4 10^{-11}
Tl-198	5.30 h	F	1.000	4.7 10^{-10}	1.000	4.0 10^{-10}	2.1 10^{-10}	1.3 10^{-10}	7.5 10^{-11}	6.0 10^{-11}
Tl-198m	1.87 h	F	1.000	3.2 10^{-10}	1.000	2.5 10^{-10}	1.2 10^{-10}	7.5 10^{-11}	4.5 10^{-11}	3.7 10^{-11}
Tl-199	7.42 h	F	1.000	1.7 10^{-10}	1.000	1.3 10^{-10}	6.4 10^{-11}	3.9 10^{-11}	2.3 10^{-11}	1.9 10^{-11}
Tl-200	1.09 d	F	1.000	1.0 10^{-9}	1.000	8.7 10^{-10}	4.6 10^{-10}	2.8 10^{-10}	1.6 10^{-10}	1.3 10^{-10}
Tl-201	3.04 d	F	1.000	4.5 10^{-10}	1.000	3.3 10^{-10}	1.5 10^{-10}	9.4 10^{-11}	5.4 10^{-11}	4.4 10^{-11}
Tl-202	12.2 d	F	1.000	1.5 10^{-9}	1.000	1.2 10^{-9}	5.9 10^{-10}	3.8 10^{-10}	2.3 10^{-10}	1.9 10^{-10}
Tl-204	3.78 a	F	1.000	5.0 10^{-9}	1.000	3.3 10^{-9}	1.5 10^{-9}	8.8 10^{-10}	4.7 10^{-10}	3.9 10^{-10}
Lead [9]										
Pb-195m	0.263 h	F	0.600	1.3 10^{-10}	0.200	1.0 10^{-10}	4.9 10^{-11}	3.1 10^{-11}	1.9 10^{-11}	1.6 10^{-11}
		M	0.200	2.0 10^{-10}	0.100	1.5 10^{-10}	7.1 10^{-11}	4.6 10^{-11}	3.1 10^{-11}	2.5 10^{-11}
		S	0.020	2.1 10^{-10}	0.010	1.5 10^{-10}	7.4 10^{-11}	4.8 10^{-11}	3.2 10^{-11}	2.7 10^{-11}
Pb-198	2.40 h	F	0.600	3.4 10^{-10}	0.200	2.9 10^{-10}	1.5 10^{-10}	8.9 10^{-11}	5.2 10^{-11}	4.3 10^{-11}
		M	0.200	5.0 10^{-10}	0.100	4.0 10^{-10}	2.1 10^{-10}	1.3 10^{-10}	8.3 10^{-11}	6.6 10^{-11}
		S	0.020	5.4 10^{-10}	0.010	4.2 10^{-10}	2.2 10^{-10}	1.4 10^{-10}	8.7 10^{-11}	7.0 10^{-11}
Pb-199	1.50 h	F	0.600	1.9 10^{-10}	0.200	1.6 10^{-10}	8.2 10^{-11}	4.9 10^{-11}	2.9 10^{-11}	2.3 10^{-11}
		M	0.200	2.8 10^{-10}	0.100	2.2 10^{-10}	1.1 10^{-10}	7.1 10^{-11}	4.5 10^{-11}	3.6 10^{-11}
		S	0.020	2.9 10^{-10}	0.010	2.3 10^{-10}	1.2 10^{-10}	7.4 10^{-11}	4.7 10^{-11}	3.7 10^{-11}
Pb-200	21.5 h	F	0.600	1.1 10^{-9}	0.200	9.3 10^{-10}	4.6 10^{-10}	2.8 10^{-10}	1.6 10^{-10}	1.4 10^{-10}
		M	0.200	2.2 10^{-9}	0.100	1.7 10^{-9}	8.6 10^{-10}	5.7 10^{-10}	4.1 10^{-10}	3.3 10^{-10}
		S	0.020	2.4 10^{-9}	0.010	1.8 10^{-9}	9.2 10^{-10}	6.2 10^{-10}	4.4 10^{-10}	3.5 10^{-10}
Pb-201	9.40 h	F	0.600	4.8 10^{-10}	0.200	4.1 10^{-10}	2.0 10^{-10}	1.2 10^{-10}	7.1 10^{-11}	6.0 10^{-11}
		M	0.200	8.0 10^{-10}	0.100	6.4 10^{-10}	3.3 10^{-10}	2.1 10^{-10}	1.4 10^{-10}	1.1 10^{-10}
		S	0.020	8.8 10^{-10}	0.010	6.7 10^{-10}	3.5 10^{-10}	2.2 10^{-10}	1.5 10^{-10}	1.2 10^{-10}
Pb-202	3.00 10^{5} a	F	0.600	1.9 10^{-8}	0.200	1.3 10^{-8}	8.9 10^{-9}	1.3 10^{-8}	1.8 10^{-8}	1.1 10^{-8}
		M	0.200	1.2 10^{-8}	0.100	8.9 10^{-9}	6.2 10^{-9}	6.7 10^{-9}	8.7 10^{-9}	6.3 10^{-9}
		S	0.020	2.8 10^{-8}	0.010	2.8 10^{-8}	2.0 10^{-8}	1.4 10^{-8}	1.3 10^{-8}	1.2 10^{-8}

[9] The value of f_1 for 1 to 15 year olds for type F is 0.4.

TABLE B (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for inhaled radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Lung absorp-tion type	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
			f_1 for $g \le 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Pb-202m	3.62 h	F	0.600	4.7 10^{-10}	0.200	4.0 10^{-10}	2.1 10^{-10}	1.3 10^{-10}	7.5 10^{-11}	6.2 10^{-11}
		M	0.200	6.9 10^{-10}	0.100	5.6 10^{-10}	2.9 10^{-10}	1.9 10^{-10}	1.2 10^{-10}	9.5 10^{-11}
		S	0.020	7.3 10^{-10}	0.010	5.8 10^{-10}	3.0 10^{-10}	1.9 10^{-10}	1.3 10^{-10}	1.0 10^{-10}
Pb-203	2.17 d	F	0.600	7.2 10^{-10}	0.200	5.8 10^{-10}	2.8 10^{-10}	1.7 10^{-10}	9.9 10^{-11}	8.5 10^{-11}
		M	0.200	1.3 10^{-9}	0.100	1.0 10^{-9}	5.4 10^{-10}	3.6 10^{-10}	2.5 10^{-10}	2.0 10^{-10}
		S	0.020	1.5 10^{-9}	0.010	1.1 10^{-9}	5.8 10^{-10}	3.8 10^{-10}	2.8 10^{-10}	2.2 10^{-10}
Pb-205	1.43 10^{7} a	F	0.600	1.1 10^{-9}	0.200	6.9 10^{-10}	4.0 10^{-10}	4.1 10^{-10}	4.3 10^{-10}	3.3 10^{-10}
		M	0.200	1.1 10^{-9}	0.100	7.7 10^{-10}	4.3 10^{-10}	3.2 10^{-10}	2.9 10^{-10}	2.5 10^{-10}
		S	0.020	2.9 10^{-9}	0.010	2.7 10^{-9}	1.7 10^{-9}	1.1 10^{-9}	9.2 10^{-10}	8.5 10^{-10}
Pb-209	3.25 h	F	0.600	1.8 10^{-10}	0.200	1.2 10^{-10}	5.3 10^{-11}	3.4 10^{-11}	1.9 10^{-11}	1.7 10^{-11}
		M	0.200	4.0 10^{-10}	0.100	2.7 10^{-10}	1.3 10^{-10}	9.2 10^{-11}	6.9 10^{-11}	5.6 10^{-11}
		S	0.020	4.4 10^{-10}	0.010	2.9 10^{-10}	1.4 10^{-10}	9.9 10^{-11}	7.5 10^{-11}	6.1 10^{-11}
Pb-210	22.3 a	F	0.600	4.7 10^{-6}	0.200	2.9 10^{-6}	1.5 10^{-6}	1.4 10^{-6}	1.3 10^{-6}	9.0 10^{-7}
		M	0.200	5.0 10^{-6}	0.100	3.7 10^{-6}	2.2 10^{-6}	1.5 10^{-6}	1.3 10^{-6}	1.1 10^{-6}
		S	0.020	1.8 10^{-5}	0.010	1.8 10^{-5}	1.1 10^{-5}	7.2 10^{-6}	5.9 10^{-6}	5.6 10^{-6}
Pb-211	0.601 h	F	0.600	2.5 10^{-8}	0.200	1.7 10^{-8}	8.7 10^{-9}	6.1 10^{-9}	4.6 10^{-9}	3.9 10^{-9}
		M	0.200	6.2 10^{-8}	0.100	4.5 10^{-8}	2.5 10^{-8}	1.9 10^{-8}	1.4 10^{-8}	1.1 10^{-8}
		S	0.020	6.6 10^{-8}	0.010	4.8 10^{-8}	2.7 10^{-8}	2.0 10^{-8}	1.5 10^{-8}	1.2 10^{-8}
Pb-212	10.6 h	F	0.600	1.9 10^{-7}	0.200	1.2 10^{-7}	5.4 10^{-8}	3.5 10^{-8}	2.0 10^{-8}	1.8 10^{-8}
		M	0.200	6.2 10^{-7}	0.100	4.6 10^{-7}	3.0 10^{-7}	2.2 10^{-7}	2.2 10^{-7}	1.7 10^{-7}
		S	0.020	6.7 10^{-7}	0.010	5.0 10^{-7}	3.3 10^{-7}	2.5 10^{-7}	2.4 10^{-7}	1.9 10^{-7}
Pb-214	0.447 h	F	0.600	2.2 10^{-8}	0.200	1.5 10^{-8}	6.9 10^{-9}	4.8 10^{-9}	3.3 10^{-9}	2.8 10^{-9}
		M	0.200	6.4 10^{-8}	0.100	4.6 10^{-8}	2.6 10^{-8}	1.9 10^{-8}	1.4 10^{-8}	1.4 10^{-8}
		S	0.020	6.9 10^{-8}	0.010	5.0 10^{-8}	2.8 10^{-8}	2.1 10^{-8}	1.5 10^{-8}	1.5 10^{-8}
Bismuth										
Bi-200	0.606 h	F	0.100	1.9 10^{-10}	0.050	1.5 10^{-10}	7.4 10^{-11}	4.5 10^{-11}	2.7 10^{-11}	2.2 10^{-11}
		M	0.100	2.5 10^{-10}	0.050	1.9 10^{-10}	9.9 10^{-11}	6.3 10^{-11}	4.1 10^{-11}	3.3 10^{-11}
Bi-201	1.80 h	F	0.100	4.0 10^{-10}	0.050	3.1 10^{-10}	1.5 10^{-10}	9.3 10^{-11}	5.4 10^{-11}	4.4 10^{-11}
		M	0.100	5.5 10^{-10}	0.050	4.1 10^{-10}	2.0 10^{-10}	1.3 10^{-10}	8.3 10^{-11}	6.6 10^{-11}
Bi-202	1.67 h	F	0.100	3.4 10^{-10}	0.050	2.8 10^{-10}	1.5 10^{-10}	9.0 10^{-11}	5.3 10^{-11}	4.3 10^{-11}
		M	0.100	4.2 10^{-10}	0.050	3.4 10^{-10}	1.8 10^{-10}	1.1 10^{-10}	6.9 10^{-11}	5.5 10^{-11}
Bi-203	11.8 h	F	0.100	1.5 10^{-9}	0.050	1.2 10^{-9}	6.4 10^{-10}	4.0 10^{-10}	2.3 10^{-10}	1.9 10^{-10}
		M	0.100	2.0 10^{-9}	0.050	1.6 10^{-9}	8.2 10^{-10}	5.3 10^{-10}	3.3 10^{-10}	2.6 10^{-10}
Bi-205	15.3 d	F	0.100	3.0 10^{-9}	0.050	2.4 10^{-9}	1.3 10^{-9}	8.0 10^{-10}	4.7 10^{-10}	3.8 10^{-10}
		M	0.100	5.5 10^{-9}	0.050	4.4 10^{-9}	2.5 10^{-9}	1.6 10^{-9}	1.2 10^{-9}	9.3 10^{-10}
Bi-206	6.24 d	F	0.100	6.1 10^{-9}	0.050	4.8 10^{-9}	2.5 10^{-9}	1.6 10^{-9}	9.1 10^{-10}	7.4 10^{-10}
		M	0.100	1.0 10^{-8}	0.050	8.0 10^{-9}	4.4 10^{-9}	2.9 10^{-9}	2.1 10^{-9}	1.7 10^{-9}
Bi-207	38.0 a	F	0.100	4.3 10^{-9}	0.050	3.3 10^{-9}	1.7 10^{-9}	1.0 10^{-9}	6.0 10^{-10}	4.9 10^{-10}
		M	0.100	2.3 10^{-8}	0.050	2.0 10^{-8}	1.2 10^{-8}	8.2 10^{-9}	6.5 10^{-9}	5.6 10^{-9}
Bi-210	5.01 d	F	0.100	1.1 10^{-8}	0.050	6.9 10^{-9}	3.2 10^{-9}	2.1 10^{-9}	1.3 10^{-9}	1.1 10^{-9}
		M	0.100	3.9 10^{-7}	0.050	3.0 10^{-7}	1.9 10^{-7}	1.3 10^{-7}	1.1 10^{-7}	9.3 10^{-8}
Bi-210m	3.00 10^{6} a	F	0.100	4.1 10^{-7}	0.050	2.6 10^{-7}	1.3 10^{-7}	8.3 10^{-8}	5.6 10^{-8}	4.6 10^{-8}
		M	0.100	1.5 10^{-5}	0.050	1.1 10^{-5}	7.0 10^{-6}	4.8 10^{-6}	4.1 10^{-6}	3.4 10^{-6}
Bi-212	1.01 h	F	0.100	6.5 10^{-8}	0.050	4.5 10^{-8}	2.1 10^{-8}	1.5 10^{-8}	1.0 10^{-8}	9.1 10^{-9}
		M	0.100	1.6 10^{-7}	0.050	1.1 10^{-7}	6.0 10^{-8}	4.4 10^{-8}	3.8 10^{-8}	3.1 10^{-8}
Bi-213	0.761 h	F	0.100	7.7 10^{-8}	0.050	5.3 10^{-8}	2.5 10^{-8}	1.7 10^{-8}	1.2 10^{-8}	1.0 10^{-8}
		M	0.100	1.6 10^{-7}	0.050	1.2 10^{-7}	6.0 10^{-8}	4.4 10^{-8}	3.6 10^{-8}	3.0 10^{-8}
Bi-214	0.332 h	F	0.100	5.0 10^{-8}	0.050	3.5 10^{-8}	1.6 10^{-8}	1.1 10^{-8}	8.2 10^{-9}	7.1 10^{-9}
		M	0.100	8.7 10^{-8}	0.050	6.1 10^{-8}	3.1 10^{-8}	2.2 10^{-8}	1.7 10^{-8}	1.4 10^{-8}
Polonium										
Po-203	0.612 h	F	0.200	1.9 10^{-10}	0.100	1.5 10^{-10}	7.7 10^{-11}	4.7 10^{-11}	2.8 10^{-11}	2.3 10^{-11}
		M	0.200	2.7 10^{-10}	0.100	2.1 10^{-10}	1.1 10^{-10}	6.7 10^{-11}	4.3 10^{-11}	3.5 10^{-11}
		S	0.020	2.8 10^{-10}	0.010	2.2 10^{-10}	1.1 10^{-10}	7.0 10^{-11}	4.5 10^{-11}	3.6 10^{-11}
Po-205	1.80 h	F	0.200	2.6 10^{-10}	0.100	2.1 10^{-10}	1.1 10^{-10}	6.6 10^{-11}	4.1 10^{-11}	3.3 10^{-11}
		M	0.200	4.0 10^{-10}	0.100	3.1 10^{-10}	1.7 10^{-10}	1.1 10^{-10}	8.1 10^{-11}	6.5 10^{-11}
		S	0.020	4.2 10^{-10}	0.010	3.2 10^{-10}	1.8 10^{-10}	1.2 10^{-10}	8.5 10^{-11}	6.9 10^{-11}
Po-207	5.83 h	F	0.200	4.8 10^{-10}	0.100	4.0 10^{-10}	2.1 10^{-10}	1.3 10^{-10}	7.3 10^{-11}	5.8 10^{-11}
		M	0.200	6.2 10^{-10}	0.100	5.1 10^{-10}	2.6 10^{-10}	1.6 10^{-10}	9.9 10^{-11}	7.8 10^{-11}
		S	0.020	6.6 10^{-10}	0.010	5.3 10^{-10}	2.7 10^{-10}	1.7 10^{-10}	1.0 10^{-10}	8.2 10^{-11}
Po-210	138 d	F	0.200	7.4 10^{-6}	0.100	4.8 10^{-6}	2.2 10^{-6}	1.3 10^{-6}	7.7 10^{-7}	6.1 10^{-7}
		M	0.200	1.5 10^{-5}	0.100	1.1 10^{-5}	6.7 10^{-6}	4.6 10^{-6}	4.0 10^{-6}	3.3 10^{-6}
		S	0.020	1.8 10^{-5}	0.010	1.4 10^{-5}	8.6 10^{-6}	5.9 10^{-6}	5.1 10^{-6}	4.3 10^{-6}

TABLE B (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for inhaled radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Lung absorp-tion type	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
			f_1 for $g \le 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Astatine										
At-207	1.80 h	F	1.000	$2.4\ 10^{-9}$	1.000	$1.7\ 10^{-9}$	$8.9\ 10^{-10}$	$5.9\ 10^{-10}$	$4.0\ 10^{-10}$	$3.3\ 10^{-10}$
		M	1.000	$9.2\ 10^{-9}$	1.000	$6.7\ 10^{-9}$	$4.3\ 10^{-9}$	$3.1\ 10^{-9}$	$2.9\ 10^{-9}$	$2.3\ 10^{-9}$
At-211	7.21 h	F	1.000	$1.4\ 10^{-7}$	1.000	$9.7\ 10^{-8}$	$4.3\ 10^{-8}$	$2.8\ 10^{-8}$	$1.7\ 10^{-8}$	$1.6\ 10^{-8}$
		M	1.000	$5.2\ 10^{-7}$	1.000	$3.7\ 10^{-7}$	$1.9\ 10^{-7}$	$1.4\ 10^{-7}$	$1.3\ 10^{-7}$	$1.1\ 10^{-7}$
Francium										
Fr-222	0.240 h	F	1.000	$9.1\ 10^{-8}$	1.000	$6.3\ 10^{-8}$	$3.0\ 10^{-8}$	$2.1\ 10^{-8}$	$1.6\ 10^{-8}$	$1.4\ 10^{-8}$
Fr-223	0.363 h	F	1.000	$1.1\ 10^{-8}$	1.000	$7.3\ 10^{-9}$	$3.2\ 10^{-9}$	$1.9\ 10^{-9}$	$1.0\ 10^{-9}$	$8.9\ 10^{-10}$
Radium [10]										
Ra-223	11.4 d	F	0.600	$3.0\ 10^{-6}$	0.200	$1.0\ 10^{-6}$	$4.9\ 10^{-7}$	$4.0\ 10^{-7}$	$3.3\ 10^{-7}$	$1.2\ 10^{-7}$
		M	0.200	$2.8\ 10^{-5}$	0.100	$2.1\ 10^{-5}$	$1.3\ 10^{-5}$	$9.9\ 10^{-6}$	$9.4\ 10^{-6}$	$7.4\ 10^{-6}$
		S	0.020	$3.2\ 10^{-5}$	0.010	$2.4\ 10^{-5}$	$1.5\ 10^{-5}$	$1.1\ 10^{-5}$	$1.1\ 10^{-5}$	$8.7\ 10^{-6}$
Ra-224	3.66 d	F	0.600	$1.5\ 10^{-6}$	0.200	$6.0\ 10^{-7}$	$2.9\ 10^{-7}$	$2.2\ 10^{-7}$	$1.7\ 10^{-7}$	$7.5\ 10^{-8}$
		M	0.200	$1.1\ 10^{-5}$	0.100	$8.2\ 10^{-6}$	$5.3\ 10^{-6}$	$3.9\ 10^{-6}$	$3.7\ 10^{-6}$	$3.0\ 10^{-6}$
		S	0.020	$1.2\ 10^{-5}$	0.010	$9.2\ 10^{-6}$	$5.9\ 10^{-6}$	$4.4\ 10^{-6}$	$4.2\ 10^{-6}$	$3.4\ 10^{-6}$
Ra-225	14.8 d	F	0.600	$4.0\ 10^{-6}$	0.200	$1.2\ 10^{-6}$	$5.6\ 10^{-7}$	$4.6\ 10^{-7}$	$3.8\ 10^{-7}$	$1.3\ 10^{-7}$
		M	0.200	$2.4\ 10^{-5}$	0.100	$1.8\ 10^{-5}$	$1.1\ 10^{-5}$	$8.4\ 10^{-6}$	$7.9\ 10^{-6}$	$6.3\ 10^{-6}$
		S	0.020	$2.8\ 10^{-5}$	0.010	$2.2\ 10^{-5}$	$1.4\ 10^{-5}$	$1.0\ 10^{-5}$	$9.8\ 10^{-6}$	$7.7\ 10^{-6}$
Ra-226	$1.60\ 10^{3}$ a	F	0.600	$2.6\ 10^{-6}$	0.200	$9.4\ 10^{-7}$	$5.5\ 10^{-7}$	$7.2\ 10^{-7}$	$1.3\ 10^{-6}$	$3.6\ 10^{-7}$
		M	0.200	$1.5\ 10^{-5}$	0.100	$1.1\ 10^{-5}$	$7.0\ 10^{-6}$	$4.9\ 10^{-6}$	$4.5\ 10^{-6}$	$3.5\ 10^{-6}$
		S	0.020	$3.4\ 10^{-5}$	0.010	$2.9\ 10^{-5}$	$1.9\ 10^{-5}$	$1.2\ 10^{-5}$	$1.0\ 10^{-5}$	$9.5\ 10^{-6}$
Ra-227	0.703 h	F	0.600	$1.5\ 10^{-9}$	0.200	$1.2\ 10^{-9}$	$7.8\ 10^{-10}$	$6.1\ 10^{-10}$	$5.3\ 10^{-10}$	$4.6\ 10^{-10}$
		M	0.200	$8.0\ 10^{-10}$	0.100	$6.7\ 10^{-10}$	$4.4\ 10^{-10}$	$3.2\ 10^{-10}$	$2.9\ 10^{-10}$	$2.8\ 10^{-10}$
		S	0.020	$1.0\ 10^{-9}$	0.010	$8.5\ 10^{-10}$	$4.4\ 10^{-10}$	$2.9\ 10^{-10}$	$2.4\ 10^{-10}$	$2.2\ 10^{-10}$
Ra-228	5.75 a	F	0.600	$1.7\ 10^{-5}$	0.200	$5.7\ 10^{-6}$	$3.1\ 10^{-6}$	$3.6\ 10^{-6}$	$4.6\ 10^{-6}$	$9.0\ 10^{-7}$
		M	0.200	$1.5\ 10^{-5}$	0.100	$1.0\ 10^{-5}$	$6.3\ 10^{-6}$	$4.6\ 10^{-6}$	$4.4\ 10^{-6}$	$2.6\ 10^{-6}$
		S	0.020	$4.9\ 10^{-5}$	0.010	$4.8\ 10^{-5}$	$3.2\ 10^{-5}$	$2.0\ 10^{-5}$	$1.6\ 10^{-5}$	$1.6\ 10^{-5}$
Actinium										
Ac-224	2.90 h	F	0.005	$1.3\ 10^{-7}$	$5.0\ 10^{-4}$	$8.9\ 10^{-8}$	$4.7\ 10^{-8}$	$3.1\ 10^{-8}$	$1.4\ 10^{-8}$	$1.1\ 10^{-8}$
		M	0.005	$4.2\ 10^{-7}$	$5.0\ 10^{-4}$	$3.2\ 10^{-7}$	$2.0\ 10^{-7}$	$1.5\ 10^{-7}$	$1.4\ 10^{-7}$	$1.1\ 10^{-7}$
		S	0.005	$4.6\ 10^{-7}$	$5.0\ 10^{-4}$	$3.5\ 10^{-7}$	$2.2\ 10^{-7}$	$1.7\ 10^{-7}$	$1.6\ 10^{-7}$	$1.3\ 10^{-7}$
Ac-225	10.0 d	F	0.005	$1.1\ 10^{-5}$	$5.0\ 10^{-4}$	$7.7\ 10^{-6}$	$4.0\ 10^{-6}$	$2.6\ 10^{-6}$	$1.1\ 10^{-6}$	$8.8\ 10^{-7}$
		M	0.005	$2.8\ 10^{-5}$	$5.0\ 10^{-4}$	$2.1\ 10^{-5}$	$1.3\ 10^{-5}$	$1.0\ 10^{-5}$	$9.3\ 10^{-6}$	$7.4\ 10^{-6}$
		S	0.005	$3.1\ 10^{-5}$	$5.0\ 10^{-4}$	$2.3\ 10^{-5}$	$1.5\ 10^{-5}$	$1.1\ 10^{-5}$	$1.1\ 10^{-5}$	$8.5\ 10^{-6}$
Ac-226	1.21 d	F	0.005	$1.5\ 10^{-6}$	$5.0\ 10^{-4}$	$1.1\ 10^{-6}$	$4.0\ 10^{-7}$	$2.6\ 10^{-7}$	$1.2\ 10^{-7}$	$9.6\ 10^{-8}$
		M	0.005	$4.3\ 10^{-6}$	$5.0\ 10^{-4}$	$3.2\ 10^{-6}$	$2.1\ 10^{-6}$	$1.5\ 10^{-6}$	$1.5\ 10^{-6}$	$1.2\ 10^{-6}$
		S	0.005	$4.7\ 10^{-6}$	$5.0\ 10^{-4}$	$3.5\ 10^{-6}$	$2.3\ 10^{-6}$	$1.7\ 10^{-6}$	$1.6\ 10^{-6}$	$1.3\ 10^{-6}$
Ac-227	21.8 a	F	0.005	$1.7\ 10^{-3}$	$5.0\ 10^{-4}$	$1.6\ 10^{-3}$	$1.0\ 10^{-3}$	$7.2\ 10^{-4}$	$5.6\ 10^{-4}$	$5.5\ 10^{-4}$
		M	0.005	$5.7\ 10^{-4}$	$5.0\ 10^{-4}$	$5.5\ 10^{-4}$	$3.9\ 10^{-4}$	$2.6\ 10^{-4}$	$2.3\ 10^{-4}$	$2.2\ 10^{-4}$
		S	0.005	$2.2\ 10^{-4}$	$5.0\ 10^{-4}$	$2.0\ 10^{-4}$	$1.3\ 10^{-4}$	$8.7\ 10^{-5}$	$7.6\ 10^{-5}$	$7.2\ 10^{-5}$
Ac-228	6.13 h	F	0.005	$1.8\ 10^{-7}$	$5.0\ 10^{-4}$	$1.6\ 10^{-7}$	$9.7\ 10^{-8}$	$5.7\ 10^{-8}$	$2.9\ 10^{-8}$	$2.5\ 10^{-8}$
		M	0.005	$8.4\ 10^{-8}$	$5.0\ 10^{-4}$	$7.3\ 10^{-8}$	$4.7\ 10^{-8}$	$2.9\ 10^{-8}$	$2.0\ 10^{-8}$	$1.7\ 10^{-8}$
		S	0.005	$6.4\ 10^{-8}$	$5.0\ 10^{-4}$	$5.3\ 10^{-8}$	$3.3\ 10^{-8}$	$2.2\ 10^{-8}$	$1.9\ 10^{-8}$	$1.6\ 10^{-8}$
Thorium										
Th-226	0.515 h	F	0.005	$1.4\ 10^{-7}$	$5.0\ 10^{-4}$	$1.0\ 10^{-7}$	$4.8\ 10^{-8}$	$3.4\ 10^{-8}$	$2.5\ 10^{-8}$	$2.2\ 10^{-8}$
		M	0.005	$3.0\ 10^{-7}$	$5.0\ 10^{-4}$	$2.1\ 10^{-7}$	$1.1\ 10^{-7}$	$8.3\ 10^{-8}$	$7.0\ 10^{-8}$	$5.8\ 10^{-8}$
		S	0.005	$3.1\ 10^{-7}$	$5.0\ 10^{-4}$	$2.2\ 10^{-7}$	$1.2\ 10^{-7}$	$8.8\ 10^{-8}$	$7.5\ 10^{-8}$	$6.1\ 10^{-8}$
Th-227	18.7 d	F	0.005	$8.4\ 10^{-6}$	$5.0\ 10^{-4}$	$5.2\ 10^{-6}$	$2.6\ 10^{-6}$	$1.6\ 10^{-6}$	$1.0\ 10^{-6}$	$6.7\ 10^{-7}$
		M	0.005	$3.2\ 10^{-5}$	$5.0\ 10^{-4}$	$2.5\ 10^{-5}$	$1.6\ 10^{-5}$	$1.1\ 10^{-5}$	$1.1\ 10^{-5}$	$8.5\ 10^{-6}$
		S	0.005	$3.9\ 10^{-5}$	$5.0\ 10^{-4}$	$3.0\ 10^{-5}$	$1.9\ 10^{-5}$	$1.4\ 10^{-5}$	$1.3\ 10^{-5}$	$1.0\ 10^{-5}$
Th-228	1.91 a	F	0.005	$1.8\ 10^{-4}$	$5.0\ 10^{-4}$	$1.5\ 10^{-4}$	$8.3\ 10^{-5}$	$5.2\ 10^{-5}$	$3.6\ 10^{-5}$	$2.9\ 10^{-5}$
		M	0.005	$1.3\ 10^{-4}$	$5.0\ 10^{-4}$	$1.1\ 10^{-4}$	$6.8\ 10^{-5}$	$4.6\ 10^{-5}$	$3.9\ 10^{-5}$	$3.2\ 10^{-5}$
		S	0.005	$1.6\ 10^{-4}$	$5.0\ 10^{-4}$	$1.3\ 10^{-4}$	$8.2\ 10^{-5}$	$5.5\ 10^{-5}$	$4.7\ 10^{-5}$	$4.0\ 10^{-5}$
Th-229	$7.34\ 10^{3}$ a	F	0.005	$5.4\ 10^{-4}$	$5.0\ 10^{-4}$	$5.1\ 10^{-4}$	$3.6\ 10^{-4}$	$2.9\ 10^{-4}$	$2.4\ 10^{-4}$	$2.4\ 10^{-4}$
		M	0.005	$2.3\ 10^{-4}$	$5.0\ 10^{-4}$	$2.1\ 10^{-4}$	$1.6\ 10^{-4}$	$1.2\ 10^{-4}$	$1.1\ 10^{-4}$	$1.1\ 10^{-4}$
		S	0.005	$2.1\ 10^{-4}$	$5.0\ 10^{-4}$	$1.9\ 10^{-4}$	$1.3\ 10^{-4}$	$8.7\ 10^{-5}$	$7.6\ 10^{-5}$	$7.1\ 10^{-5}$
Th-230	$7.70\ 10^{4}$ a	F	0.005	$2.1\ 10^{-4}$	$5.0\ 10^{-4}$	$2.0\ 10^{-4}$	$1.4\ 10^{-4}$	$1.1\ 10^{-4}$	$9.9\ 10^{-5}$	$1.0\ 10^{-4}$
		M	0.005	$7.7\ 10^{-5}$	$5.0\ 10^{-4}$	$7.4\ 10^{-5}$	$5.5\ 10^{-5}$	$4.3\ 10^{-5}$	$4.2\ 10^{-5}$	$4.3\ 10^{-5}$
		S	0.005	$4.0\ 10^{-5}$	$5.0\ 10^{-4}$	$3.5\ 10^{-5}$	$2.4\ 10^{-5}$	$1.6\ 10^{-5}$	$1.5\ 10^{-5}$	$1.4\ 10^{-5}$

[10] The value of f_1 for 1 to 15 year olds for type F is 0.3.

TABLE B (continues)

Values of dose conversion factors $h(g)$ (Sv·Bq^{-1}) for inhaled radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Lung absorption type	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
			f_1 for $g \le 1$ a	$h(g)$	f_1 for $g > 1$ a	$h(g)$	$h(g)$	$h(g)$	$h(g)$	$h(g)$
Th-231	1.06 d	F	0.005	1.1 10^{-9}	5.0 10^{-4}	7.2 10^{-10}	2.6 10^{-10}	1.6 10^{-10}	9.2 10^{-11}	7.8 10^{-11}
		M	0.005	2.2 10^{-9}	5.0 10^{-4}	1.6 10^{-9}	8.0 10^{-10}	4.8 10^{-10}	3.8 10^{-10}	3.1 10^{-10}
		S	0.005	2.4 10^{-9}	5.0 10^{-4}	1.7 10^{-9}	7.6 10^{-10}	5.2 10^{-10}	4.1 10^{-10}	3.3 10^{-10}
Th-232	1.40 10^{10} a	F	0.005	2.3 10^{-4}	5.0 10^{-4}	2.2 10^{-4}	1.6 10^{-4}	1.3 10^{-4}	1.2 10^{-4}	1.1 10^{-4}
		M	0.005	8.3 10^{-5}	5.0 10^{-4}	8.1 10^{-5}	6.3 10^{-5}	5.0 10^{-5}	4.7 10^{-5}	4.5 10^{-5}
		S	0.005	5.4 10^{-5}	5.0 10^{-4}	5.0 10^{-5}	3.7 10^{-5}	2.6 10^{-5}	2.5 10^{-5}	2.5 10^{-5}
Th-234	24.1 d	F	0.005	4.0 10^{-8}	5.0 10^{-4}	2.5 10^{-8}	1.1 10^{-8}	6.1 10^{-9}	3.5 10^{-9}	2.5 10^{-9}
		M	0.005	3.9 10^{-8}	5.0 10^{-4}	2.9 10^{-8}	1.5 10^{-8}	1.0 10^{-8}	7.9 10^{-9}	6.6 10^{-9}
		S	0.005	4.1 10^{-8}	5.0 10^{-4}	3.1 10^{-8}	1.7 10^{-8}	1.1 10^{-8}	9.1 10^{-9}	7.7 10^{-9}
Protactinium										
Pa-227	0.638 h	M	0.005	3.6 10^{-7}	5.0 10^{-4}	2.6 10^{-7}	1.4 10^{-7}	1.0 10^{-7}	9.0 10^{-8}	7.4 10^{-8}
		S	0.005	3.8 10^{-7}	5.0 10^{-4}	2.8 10^{-7}	1.5 10^{-7}	1.1 10^{-7}	8.1 10^{-8}	8.0 10^{-8}
Pa-228	22.0 h	M	0.005	2.6 10^{-7}	5.0 10^{-4}	2.1 10^{-7}	1.3 10^{-7}	8.8 10^{-8}	7.7 10^{-8}	6.4 10^{-8}
		S	0.005	2.9 10^{-7}	5.0 10^{-4}	2.4 10^{-7}	1.5 10^{-7}	1.0 10^{-7}	9.1 10^{-8}	7.5 10^{-8}
Pa-230	17.4 d	M	0.005	2.4 10^{-6}	5.0 10^{-4}	1.8 10^{-6}	1.1 10^{-6}	8.3 10^{-7}	7.6 10^{-7}	6.1 10^{-7}
		S	0.005	2.9 10^{-6}	5.0 10^{-4}	2.2 10^{-6}	1.4 10^{-6}	1.0 10^{-6}	9.6 10^{-7}	7.6 10^{-7}
Pa-231	3.27 10^{4} a	M	0.005	2.2 10^{-4}	5.0 10^{-4}	2.3 10^{-4}	1.9 10^{-4}	1.5 10^{-4}	1.5 10^{-4}	1.4 10^{-4}
		S	0.005	7.4 10^{-5}	5.0 10^{-4}	6.9 10^{-5}	5.2 10^{-5}	3.9 10^{-5}	3.6 10^{-5}	3.4 10^{-5}
Pa-232	1.31 d	M	0.005	1.9 10^{-8}	5.0 10^{-4}	1.8 10^{-8}	1.4 10^{-8}	1.1 10^{-8}	1.0 10^{-8}	1.0 10^{-8}
		S	0.005	1.0 10^{-8}	5.0 10^{-4}	8.7 10^{-9}	5.9 10^{-9}	4.1 10^{-9}	3.7 10^{-9}	3.5 10^{-9}
Pa-233	27.0 d	M	0.005	1.5 10^{-8}	5.0 10^{-4}	1.1 10^{-8}	6.5 10^{-9}	4.7 10^{-9}	4.1 10^{-9}	3.3 10^{-9}
		S	0.005	1.7 10^{-8}	5.0 10^{-4}	1.3 10^{-8}	7.5 10^{-9}	5.5 10^{-9}	4.9 10^{-9}	3.9 10^{-9}
Pa-234	6.70 h	M	0.005	2.8 10^{-9}	5.0 10^{-4}	2.0 10^{-9}	1.0 10^{-9}	6.8 10^{-10}	4.7 10^{-10}	3.8 10^{-10}
		S	0.005	2.9 10^{-9}	5.0 10^{-4}	2.1 10^{-9}	1.1 10^{-9}	7.1 10^{-10}	5.0 10^{-10}	4.0 10^{-10}
Uranium										
U-230	20.8 d	F	0.040	3.2 10^{-6}	0.020	1.5 10^{-6}	7.2 10^{-7}	5.4 10^{-7}	4.1 10^{-7}	3.8 10^{-7}
		M	0.040	4.9 10^{-5}	0.020	3.7 10^{-5}	2.4 10^{-5}	1.8 10^{-5}	1.7 10^{-5}	1.3 10^{-5}
		S	0.020	5.8 10^{-5}	0.002	4.4 10^{-5}	2.8 10^{-5}	2.1 10^{-5}	2.0 10^{-5}	1.6 10^{-5}
U-231	4.20 d	F	0.040	8.9 10^{-10}	0.020	6.2 10^{-10}	3.1 10^{-10}	1.4 10^{-10}	1.0 10^{-10}	6.2 10^{-11}
		M	0.040	2.4 10^{-9}	0.020	1.7 10^{-9}	9.4 10^{-10}	5.5 10^{-10}	4.6 10^{-10}	3.8 10^{-10}
		S	0.020	2.6 10^{-9}	0.002	1.9 10^{-9}	9.0 10^{-10}	6.1 10^{-10}	4.9 10^{-10}	4.0 10^{-10}
U-232	72.0 a	F	0.040	1.6 10^{-5}	0.020	1.0 10^{-5}	6.9 10^{-6}	6.8 10^{-6}	7.5 10^{-6}	4.0 10^{-6}
		M	0.040	3.0 10^{-5}	0.020	2.4 10^{-5}	1.6 10^{-5}	1.1 10^{-5}	1.0 10^{-5}	7.8 10^{-6}
		S	0.020	1.0 10^{-4}	0.002	9.7 10^{-5}	6.6 10^{-5}	4.3 10^{-5}	3.8 10^{-5}	3.7 10^{-5}
U-233	1.58 10^{5} a	F	0.040	2.2 10^{-6}	0.020	1.4 10^{-6}	9.4 10^{-7}	8.4 10^{-7}	8.6 10^{-7}	5.8 10^{-7}
		M	0.040	1.5 10^{-5}	0.020	1.1 10^{-5}	7.2 10^{-6}	4.9 10^{-6}	4.3 10^{-6}	3.6 10^{-6}
		S	0.020	3.4 10^{-5}	0.002	3.0 10^{-5}	1.9 10^{-5}	1.2 10^{-5}	1.1 10^{-5}	9.6 10^{-6}
U-234	2.44 10^{5} a	F	0.040	2.1 10^{-6}	0.020	1.4 10^{-6}	9.0 10^{-7}	8.0 10^{-7}	8.2 10^{-7}	5.6 10^{-7}
		M	0.040	1.5 10^{-5}	0.020	1.1 10^{-5}	7.0 10^{-6}	4.8 10^{-6}	4.2 10^{-6}	3.5 10^{-6}
		S	0.020	3.3 10^{-5}	0.002	2.9 10^{-5}	1.9 10^{-5}	1.2 10^{-5}	1.0 10^{-5}	9.4 10^{-6}
U-235	7.04 10^{8} a	F	0.040	2.0 10^{-6}	0.020	1.3 10^{-6}	8.5 10^{-7}	7.5 10^{-7}	7.7 10^{-7}	5.2 10^{-7}
		M	0.040	1.3 10^{-5}	0.020	1.0 10^{-5}	6.3 10^{-6}	4.3 10^{-6}	3.7 10^{-6}	3.1 10^{-6}
		S	0.020	3.0 10^{-5}	0.002	2.6 10^{-5}	1.7 10^{-5}	1.1 10^{-5}	9.2 10^{-6}	8.5 10^{-6}
U-236	2.34 10^{7} a	F	0.040	2.0 10^{-6}	0.020	1.3 10^{-6}	8.5 10^{-7}	7.5 10^{-7}	7.8 10^{-7}	5.3 10^{-7}
		M	0.040	1.4 10^{-5}	0.020	1.0 10^{-5}	6.5 10^{-6}	4.5 10^{-6}	3.9 10^{-6}	3.2 10^{-6}
		S	0.020	3.1 10^{-5}	0.002	2.7 10^{-5}	1.8 10^{-5}	1.1 10^{-5}	9.5 10^{-6}	8.7 10^{-6}
U-237	6.75 d	F	0.040	1.8 10^{-9}	0.020	1.5 10^{-9}	6.6 10^{-10}	4.2 10^{-10}	1.9 10^{-10}	1.8 10^{-10}
		M	0.040	7.8 10^{-9}	0.020	5.7 10^{-9}	3.3 10^{-9}	2.4 10^{-9}	2.1 10^{-9}	1.7 10^{-9}
		S	0.020	8.7 10^{-9}	0.002	6.4 10^{-9}	3.7 10^{-9}	2.7 10^{-9}	2.4 10^{-9}	1.9 10^{-9}
U-238	4.47 10^{9} a	F	0.040	1.9 10^{-6}	0.020	1.3 10^{-6}	8.2 10^{-7}	7.3 10^{-7}	7.4 10^{-7}	5.0 10^{-7}
		M	0.040	1.2 10^{-5}	0.020	9.4 10^{-6}	5.9 10^{-6}	4.0 10^{-6}	3.4 10^{-6}	2.9 10^{-6}
		S	0.020	2.9 10^{-5}	0.002	2.5 10^{-5}	1.6 10^{-5}	1.0 10^{-5}	8.7 10^{-6}	8.0 10^{-6}
U-239	0.392 h	F	0.040	1.0 10^{-10}	0.020	6.6 10^{-11}	2.9 10^{-11}	1.9 10^{-11}	1.2 10^{-11}	1.0 10^{-11}
		M	0.040	1.8 10^{-10}	0.020	1.2 10^{-10}	5.6 10^{-11}	3.8 10^{-11}	2.7 10^{-11}	2.2 10^{-11}
		S	0.020	1.9 10^{-10}	0.002	1.2 10^{-10}	5.9 10^{-11}	4.0 10^{-11}	2.9 10^{-11}	2.4 10^{-11}
U-240	14.1 h	F	0.040	2.4 10^{-9}	0.020	1.6 10^{-9}	7.1 10^{-10}	4.5 10^{-10}	2.3 10^{-10}	2.0 10^{-10}
		M	0.040	4.6 10^{-9}	0.020	3.1 10^{-9}	1.7 10^{-9}	1.1 10^{-9}	6.5 10^{-10}	5.3 10^{-10}
		S	0.020	4.9 10^{-9}	0.002	3.3 10^{-9}	1.6 10^{-9}	1.1 10^{-9}	7.0 10^{-10}	5.8 10^{-10}
Neptunium										
NP-232	0.245 h	F	0.005	2.0 10^{-10}	5.0 10^{-4}	1.9 10^{-10}	1.2 10^{-10}	1.1 10^{-10}	1.1 10^{-10}	1.2 10^{-10}
		M	0.005	8.9 10^{-11}	5.0 10^{-4}	8.1 10^{-11}	5.5 10^{-11}	4.5 10^{-11}	4.7 10^{-11}	5.0 10^{-11}
		S	0.005	1.2 10^{-10}	5.0 10^{-4}	9.7 10^{-11}	5.8 10^{-11}	3.9 10^{-11}	2.5 10^{-11}	2.4 10^{-11}

TABLE B (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for inhaled radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Lung absorption type	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
			f_1 for $g \leq 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Np-233	0.603 h	F	0.005	1.1 10^{-11}	5.0 10^{-4}	8.7 10^{-12}	4.2 10^{-12}	2.5 10^{-12}	1.4 10^{-12}	1.1 10^{-12}
		M	0.005	1.5 10^{-11}	5.0 10^{-4}	1.1 10^{-11}	5.5 10^{-12}	3.3 10^{-12}	2.1 10^{-12}	1.6 10^{-12}
		S	0.005	1.5 10^{-11}	5.0 10^{-4}	1.2 10^{-11}	5.7 10^{-12}	3.4 10^{-12}	2.1 10^{-12}	1.7 10^{-12}
Np-234	4.40 d	F	0.005	2.9 10^{-9}	5.0 10^{-4}	2.2 10^{-9}	1.1 10^{-9}	7.2 10^{-10}	4.3 10^{-10}	3.5 10^{-10}
		M	0.005	3.8 10^{-9}	5.0 10^{-4}	3.0 10^{-9}	1.6 10^{-9}	1.0 10^{-9}	6.5 10^{-10}	5.3 10^{-10}
		S	0.005	3.9 10^{-9}	5.0 10^{-4}	3.1 10^{-9}	1.6 10^{-9}	1.0 10^{-9}	6.8 10^{-10}	5.5 10^{-10}
Np-235	1.08 a	F	0.005	4.2 10^{-9}	5.0 10^{-4}	3.5 10^{-9}	1.9 10^{-9}	1.1 10^{-9}	7.5 10^{-10}	6.3 10^{-10}
		M	0.005	2.3 10^{-9}	5.0 10^{-4}	1.9 10^{-9}	1.1 10^{-9}	6.8 10^{-10}	5.1 10^{-10}	4.2 10^{-10}
		S	0.005	2.6 10^{-9}	5.0 10^{-4}	2.2 10^{-9}	1.3 10^{-9}	8.3 10^{-10}	6.3 10^{-10}	5.2 10^{-10}
Np-236	1.15 10^{5} a	F	0.005	8.9 10^{-6}	5.0 10^{-4}	9.1 10^{-6}	7.2 10^{-6}	7.5 10^{-6}	7.9 10^{-6}	8.0 10^{-6}
		M	0.005	3.0 10^{-6}	5.0 10^{-4}	3.1 10^{-6}	2.7 10^{-6}	2.7 10^{-6}	3.1 10^{-6}	3.2 10^{-6}
		S	0.005	1.6 10^{-6}	5.0 10^{-4}	1.6 10^{-6}	1.3 10^{-6}	1.0 10^{-6}	1.0 10^{-6}	1.0 10^{-6}
Np-236	22.5 h	F	0.005	2.8 10^{-8}	5.0 10^{-4}	2.6 10^{-8}	1.5 10^{-8}	1.1 10^{-8}	8.9 10^{-9}	9.0 10^{-9}
		M	0.005	1.6 10^{-8}	5.0 10^{-4}	1.4 10^{-8}	8.9 10^{-9}	6.2 10^{-9}	5.6 10^{-9}	5.3 10^{-9}
		S	0.005	1.6 10^{-8}	5.0 10^{-4}	1.3 10^{-8}	8.5 10^{-9}	5.7 10^{-9}	4.8 10^{-9}	4.2 10^{-9}
Np-237	2.14 10^{6} a	F	0.005	9.8 10^{-5}	5.0 10^{-4}	9.3 10^{-5}	6.0 10^{-5}	5.0 10^{-5}	4.7 10^{-5}	5.0 10^{-5}
		M	0.005	4.4 10^{-5}	5.0 10^{-4}	4.0 10^{-5}	2.8 10^{-5}	2.2 10^{-5}	2.2 10^{-5}	2.3 10^{-5}
		S	0.005	3.7 10^{-5}	5.0 10^{-4}	3.2 10^{-5}	2.1 10^{-5}	1.4 10^{-5}	1.3 10^{-5}	1.2 10^{-5}
Np-238	2.12 d	F	0.005	9.0 10^{-9}	5.0 10^{-4}	7.9 10^{-9}	4.8 10^{-9}	3.7 10^{-9}	3.3 10^{-9}	3.5 10^{-9}
		M	0.005	7.3 10^{-9}	5.0 10^{-4}	5.8 10^{-9}	3.4 10^{-9}	2.5 10^{-9}	2.2 10^{-9}	2.1 10^{-9}
		S	0.005	8.1 10^{-9}	5.0 10^{-4}	6.2 10^{-9}	3.2 10^{-9}	2.1 10^{-9}	1.7 10^{-9}	1.5 10^{-9}
Np-239	2.36 d	F	0.005	2.6 10^{-9}	5.0 10^{-4}	1.4 10^{-9}	6.3 10^{-10}	3.8 10^{-10}	2.1 10^{-10}	1.7 10^{-10}
		M	0.005	5.9 10^{-9}	5.0 10^{-4}	4.2 10^{-9}	2.0 10^{-9}	1.4 10^{-9}	1.2 10^{-9}	9.3 10^{-10}
		S	0.005	5.6 10^{-9}	5.0 10^{-4}	4.0 10^{-9}	2.2 10^{-9}	1.6 10^{-9}	1.3 10^{-9}	1.0 10^{-9}
Np-240	1.08 h	F	0.005	3.6 10^{-10}	5.0 10^{-4}	2.6 10^{-10}	1.2 10^{-10}	7.7 10^{-11}	4.7 10^{-11}	4.0 10^{-11}
		M	0.005	6.3 10^{-10}	5.0 10^{-4}	4.4 10^{-10}	2.2 10^{-10}	1.4 10^{-10}	1.0 10^{-10}	8.5 10^{-11}
		S	0.005	6.5 10^{-10}	5.0 10^{-4}	4.6 10^{-10}	2.3 10^{-10}	1.5 10^{-10}	1.1 10^{-10}	9.0 10^{-11}
Plutonium										
Pu-234	8.80 h	F	0.005	3.0 10^{-8}	5.0 10^{-4}	2.0 10^{-8}	9.8 10^{-9}	5.7 10^{-9}	3.6 10^{-9}	3.0 10^{-9}
		M	0.005	7.8 10^{-8}	5.0 10^{-4}	5.9 10^{-8}	3.7 10^{-8}	2.8 10^{-8}	2.6 10^{-8}	2.1 10^{-8}
		S	1.0 10^{-4}	8.7 10^{-8}	1.0 10^{-5}	6.6 10^{-8}	4.2 10^{-8}	3.1 10^{-8}	3.0 10^{-8}	2.4 10^{-8}
Pu-235	0.422 h	F	0.005	1.0 10^{-11}	5.0 10^{-4}	7.9 10^{-12}	3.9 10^{-12}	2.2 10^{-12}	1.3 10^{-12}	1.0 10^{-12}
		M	0.005	1.3 10^{-11}	5.0 10^{-4}	1.0 10^{-11}	5.0 10^{-12}	2.9 10^{-12}	1.9 10^{-12}	1.4 10^{-12}
		S	1.0 10^{-4}	1.3 10^{-11}	1.0 10^{-5}	1.0 10^{-11}	5.1 10^{-12}	3.0 10^{-12}	1.9 10^{-12}	1.5 10^{-12}
Pu-236	2.85 a	F	0.005	1.0 10^{-4}	5.0 10^{-4}	9.5 10^{-5}	6.1 10^{-5}	4.4 10^{-5}	3.7 10^{-5}	4.0 10^{-5}
		M	0.005	4.8 10^{-5}	5.0 10^{-4}	4.3 10^{-5}	2.9 10^{-5}	2.1 10^{-5}	1.9 10^{-5}	2.0 10^{-5}
		S	1.0 10^{-4}	3.6 10^{-5}	1.0 10^{-5}	3.1 10^{-5}	2.0 10^{-5}	1.4 10^{-5}	1.2 10^{-5}	1.0 10^{-5}
Pu-237	45.3 d	F	0.005	2.2 10^{-9}	5.0 10^{-4}	1.6 10^{-9}	7.9 10^{-10}	4.8 10^{-10}	2.9 10^{-10}	2.6 10^{-10}
		M	0.005	1.9 10^{-9}	5.0 10^{-4}	1.4 10^{-9}	8.2 10^{-10}	5.4 10^{-10}	4.3 10^{-10}	3.5 10^{-10}
		S	1.0 10^{-4}	2.0 10^{-9}	1.0 10^{-5}	1.5 10^{-9}	8.8 10^{-10}	5.9 10^{-10}	4.8 10^{-10}	3.9 10^{-10}
Pu-238	87.7 a	F	0.005	2.0 10^{-4}	5.0 10^{-4}	1.9 10^{-4}	1.4 10^{-4}	1.1 10^{-4}	1.0 10^{-4}	1.1 10^{-4}
		M	0.005	7.8 10^{-5}	5.0 10^{-4}	7.4 10^{-5}	5.6 10^{-5}	4.4 10^{-5}	4.3 10^{-5}	4.6 10^{-5}
		S	1.0 10^{-4}	4.5 10^{-5}	1.0 10^{-5}	4.0 10^{-5}	2.7 10^{-5}	1.9 10^{-5}	1.7 10^{-5}	1.6 10^{-5}
Pu-239	2.41 10^{4} a	F	0.005	2.1 10^{-4}	5.0 10^{-4}	2.0 10^{-4}	1.5 10^{-4}	1.2 10^{-4}	1.1 10^{-4}	1.2 10^{-4}
		M	0.005	8.0 10^{-5}	5.0 10^{-4}	7.7 10^{-5}	6.0 10^{-5}	4.8 10^{-5}	4.7 10^{-5}	5.0 10^{-5}
		S	1.0 10^{-4}	4.3 10^{-5}	1.0 10^{-5}	3.9 10^{-5}	2.7 10^{-5}	1.9 10^{-5}	1.7 10^{-5}	1.6 10^{-5}
Pu-240	6.54 10^{3} a	F	0.005	2.1 10^{-4}	5.0 10^{-4}	2.0 10^{-4}	1.5 10^{-4}	1.2 10^{-4}	1.1 10^{-4}	1.2 10^{-4}
		M	0.005	8.0 10^{-5}	5.0 10^{-4}	7.7 10^{-5}	6.0 10^{-5}	4.8 10^{-5}	4.7 10^{-5}	5.0 10^{-5}
		S	1.0 10^{-4}	4.3 10^{-5}	1.0 10^{-5}	3.9 10^{-5}	2.7 10^{-5}	1.9 10^{-5}	1.7 10^{-5}	1.6 10^{-5}
Pu-241	14.4 a	F	0.005	2.8 10^{-6}	5.0 10^{-4}	2.9 10^{-6}	2.6 10^{-6}	2.4 10^{-6}	2.2 10^{-6}	2.3 10^{-6}
		M	0.005	9.1 10^{-7}	5.0 10^{-4}	9.7 10^{-7}	9.2 10^{-7}	8.3 10^{-7}	8.6 10^{-7}	9.0 10^{-7}
		S	1.0 10^{-4}	2.2 10^{-7}	1.0 10^{-5}	2.3 10^{-7}	2.0 10^{-7}	1.7 10^{-7}	1.7 10^{-7}	1.7 10^{-7}
Pu-242	3.76 10^{5} a	F	0.005	2.0 10^{-4}	5.0 10^{-4}	1.9 10^{-4}	1.4 10^{-4}	1.2 10^{-4}	1.1 10^{-4}	1.1 10^{-4}
		M	0.005	7.6 10^{-5}	5.0 10^{-4}	7.3 10^{-5}	5.7 10^{-5}	4.5 10^{-5}	4.5 10^{-5}	4.8 10^{-5}
		S	1.0 10^{-4}	4.0 10^{-5}	1.0 10^{-5}	3.6 10^{-5}	2.5 10^{-5}	1.7 10^{-5}	1.6 10^{-5}	1.5 10^{-5}
Pu-243	4.95 h	F	0.005	2.7 10^{-10}	5.0 10^{-4}	1.9 10^{-10}	8.8 10^{-11}	5.7 10^{-11}	3.5 10^{-11}	3.2 10^{-11}
		M	0.005	5.6 10^{-10}	5.0 10^{-4}	3.9 10^{-10}	1.9 10^{-10}	1.3 10^{-10}	8.7 10^{-11}	8.3 10^{-11}
		S	1.0 10^{-4}	6.0 10^{-10}	1.0 10^{-5}	4.1 10^{-10}	2.0 10^{-10}	1.4 10^{-10}	9.2 10^{-11}	8.6 10^{-11}
Pu-244	8.26 10^{7} a	F	0.005	2.0 10^{-4}	5.0 10^{-4}	1.9 10^{-4}	1.4 10^{-4}	1.2 10^{-4}	1.1 10^{-4}	1.1 10^{-4}
		M	0.005	7.4 10^{-5}	5.0 10^{-4}	7.2 10^{-5}	5.6 10^{-5}	4.5 10^{-5}	4.4 10^{-5}	4.7 10^{-5}
		S	1.0 10^{-4}	3.9 10^{-5}	1.0 10^{-5}	3.5 10^{-5}	2.4 10^{-5}	1.7 10^{-5}	1.5 10^{-5}	1.5 10^{-5}
Pu-245	10.5 h	F	0.005	1.8 10^{-9}	5.0 10^{-4}	1.3 10^{-9}	5.6 10^{-10}	3.5 10^{-10}	1.9 10^{-10}	1.6 10^{-10}
		M	0.005	3.6 10^{-9}	5.0 10^{-4}	2.5 10^{-9}	1.2 10^{-9}	8.0 10^{-10}	5.0 10^{-10}	4.0 10^{-10}
		S	1.0 10^{-4}	3.8 10^{-9}	1.0 10^{-5}	2.6 10^{-9}	1.3 10^{-9}	8.5 10^{-10}	5.4 10^{-10}	4.3 10^{-10}

TABLE B (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for inhaled radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Lung absorp-tion type	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
			f_1 for $g \le 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Pu-246	10.9 d	F	0.005	2.0 10^{-8}	5.0 10^{-4}	1.4 10^{-8}	7.0 10^{-9}	4.4 10^{-9}	2.8 10^{-9}	2.5 10^{-9}
		M	0.005	3.5 10^{-8}	5.0 10^{-4}	2.6 10^{-8}	1.5 10^{-8}	1.1 10^{-8}	9.1 10^{-9}	7.4 10^{-9}
		S	1.0 10^{-4}	3.8 10^{-8}	1.0 10^{-5}	2.8 10^{-8}	1.6 10^{-8}	1.2 10^{-8}	1.0 10^{-8}	8.0 10^{-9}
Americium										
Am-237	1.22 h	F	0.005	9.8 10^{-11}	5.0 10^{-4}	7.3 10^{-11}	3.5 10^{-11}	2.2 10^{-11}	1.3 10^{-11}	1.1 10^{-11}
		M	0.005	1.7 10^{-10}	5.0 10^{-4}	1.2 10^{-10}	6.2 10^{-11}	4.1 10^{-11}	3.0 10^{-11}	2.5 10^{-11}
		S	0.005	1.7 10^{-10}	5.0 10^{-4}	1.3 10^{-10}	6.5 10^{-11}	4.3 10^{-11}	3.2 10^{-11}	2.6 10^{-11}
Am-238	1.63 h	F	0.005	4.1 10^{-10}	5.0 10^{-4}	3.8 10^{-10}	2.5 10^{-10}	2.0 10^{-10}	1.8 10^{-10}	1.9 10^{-10}
		M	0.005	3.1 10^{-10}	5.0 10^{-4}	2.6 10^{-10}	1.3 10^{-10}	9.6 10^{-11}	8.8 10^{-11}	9.0 10^{-11}
		S	0.005	2.7 10^{-10}	5.0 10^{-4}	2.2 10^{-10}	1.3 10^{-10}	8.2 10^{-11}	6.1 10^{-11}	5.4 10^{-11}
Am-239	11.9 h	F	0.005	8.1 10^{-10}	5.0 10^{-4}	5.8 10^{-10}	2.6 10^{-10}	1.6 10^{-10}	9.1 10^{-11}	7.6 10^{-11}
		M	0.005	1.5 10^{-9}	5.0 10^{-4}	1.1 10^{-9}	5.6 10^{-10}	3.7 10^{-10}	2.7 10^{-10}	2.2 10^{-10}
		S	0.005	1.6 10^{-9}	5.0 10^{-4}	1.1 10^{-9}	5.9 10^{-10}	4.0 10^{-10}	2.5 10^{-10}	2.4 10^{-10}
Am-240	2.12 d	F	0.005	2.0 10^{-9}	5.0 10^{-4}	1.7 10^{-9}	8.8 10^{-10}	5.7 10^{-10}	3.6 10^{-10}	2.3 10^{-10}
		M	0.005	2.9 10^{-9}	5.0 10^{-4}	2.2 10^{-9}	1.2 10^{-9}	7.7 10^{-10}	5.3 10^{-10}	4.3 10^{-10}
		S	0.005	3.0 10^{-9}	5.0 10^{-4}	2.3 10^{-9}	1.2 10^{-9}	7.8 10^{-10}	5.3 10^{-10}	4.3 10^{-10}
Am-241	4.32 10^{2} a	F	0.005	1.8 10^{-4}	5.0 10^{-4}	1.8 10^{-4}	1.2 10^{-4}	1.0 10^{-4}	9.2 10^{-5}	9.6 10^{-5}
		M	0.005	7.3 10^{-5}	5.0 10^{-4}	6.9 10^{-5}	5.1 10^{-5}	4.0 10^{-5}	4.0 10^{-5}	4.2 10^{-5}
		S	0.005	4.6 10^{-5}	5.0 10^{-4}	4.0 10^{-5}	2.7 10^{-5}	1.9 10^{-5}	1.7 10^{-5}	1.6 10^{-5}
Am-242	16.0 h	F	0.005	9.2 10^{-8}	5.0 10^{-4}	7.1 10^{-8}	3.5 10^{-8}	2.1 10^{-8}	1.4 10^{-8}	1.1 10^{-8}
		M	0.005	7.6 10^{-8}	5.0 10^{-4}	5.9 10^{-8}	3.6 10^{-8}	2.4 10^{-8}	2.1 10^{-8}	1.7 10^{-8}
		S	0.005	8.0 10^{-8}	5.0 10^{-4}	6.2 10^{-8}	3.9 10^{-8}	2.7 10^{-8}	2.4 10^{-8}	2.0 10^{-8}
Am-242m	1.52 10^{2} a	F	0.005	1.6 10^{-4}	5.0 10^{-4}	1.5 10^{-4}	1.1 10^{-4}	9.4 10^{-5}	8.8 10^{-5}	9.2 10^{-5}
		M	0.005	5.2 10^{-5}	5.0 10^{-4}	5.3 10^{-5}	4.1 10^{-5}	3.4 10^{-5}	3.5 10^{-5}	3.7 10^{-5}
		S	0.005	2.5 10^{-5}	5.0 10^{-4}	2.4 10^{-5}	1.7 10^{-5}	1.2 10^{-5}	1.1 10^{-5}	1.1 10^{-5}
Am-243	7.38 10^{3} a	F	0.005	1.8 10^{-4}	5.0 10^{-4}	1.7 10^{-4}	1.2 10^{-4}	1.0 10^{-4}	9.1 10^{-5}	9.6 10^{-5}
		M	0.005	7.2 10^{-5}	5.0 10^{-4}	6.8 10^{-5}	5.0 10^{-5}	4.0 10^{-5}	4.0 10^{-5}	4.1 10^{-5}
		S	0.005	4.4 10^{-5}	5.0 10^{-4}	3.9 10^{-5}	2.6 10^{-5}	1.8 10^{-5}	1.6 10^{-5}	1.5 10^{-5}
Am-244	10.1 h	F	0.005	1.0 10^{-8}	5.0 10^{-4}	9.2 10^{-9}	5.6 10^{-9}	4.1 10^{-9}	3.5 10^{-9}	3.7 10^{-9}
		M	0.005	6.0 10^{-9}	5.0 10^{-4}	5.0 10^{-9}	3.2 10^{-9}	2.2 10^{-9}	2.0 10^{-9}	2.0 10^{-9}
		S	0.005	6.1 10^{-9}	5.0 10^{-4}	4.8 10^{-9}	2.4 10^{-9}	1.6 10^{-9}	1.4 10^{-9}	1.2 10^{-9}
Am-244m	0.433 h	F	0.005	4.6 10^{-10}	5.0 10^{-4}	4.0 10^{-10}	2.4 10^{-10}	1.8 10^{-10}	1.5 10^{-10}	1.6 10^{-10}
		M	0.005	3.3 10^{-10}	5.0 10^{-4}	2.1 10^{-10}	1.3 10^{-10}	9.2 10^{-11}	8.3 10^{-11}	8.4 10^{-11}
		S	0.005	3.0 10^{-10}	5.0 10^{-4}	2.2 10^{-10}	1.2 10^{-10}	8.1 10^{-11}	5.5 10^{-11}	5.7 10^{-11}
Am-245	2.05 h	F	0.005	2.1 10^{-10}	5.0 10^{-4}	1.4 10^{-10}	6.2 10^{-11}	4.0 10^{-11}	2.4 10^{-11}	2.1 10^{-11}
		M	0.005	3.9 10^{-10}	5.0 10^{-4}	2.6 10^{-10}	1.3 10^{-10}	8.7 10^{-11}	6.4 10^{-11}	5.3 10^{-11}
		S	0.005	4.1 10^{-10}	5.0 10^{-4}	2.8 10^{-10}	1.3 10^{-10}	9.2 10^{-11}	6.8 10^{-11}	5.6 10^{-11}
Am-246	0.650 h	F	0.005	3.0 10^{-10}	5.0 10^{-4}	2.0 10^{-10}	9.3 10^{-11}	6.1 10^{-11}	3.8 10^{-11}	3.3 10^{-11}
		M	0.005	5.0 10^{-10}	5.0 10^{-4}	3.4 10^{-10}	1.6 10^{-10}	1.1 10^{-10}	7.9 10^{-11}	6.6 10^{-11}
		S	0.005	5.3 10^{-10}	5.0 10^{-4}	3.6 10^{-10}	1.7 10^{-10}	1.2 10^{-10}	8.3 10^{-11}	6.9 10^{-11}
Am-246m	0.417 h	F	0.005	1.3 10^{-10}	5.0 10^{-4}	8.9 10^{-11}	4.2 10^{-11}	2.6 10^{-11}	1.6 10^{-11}	1.4 10^{-11}
		M	0.005	1.9 10^{-10}	5.0 10^{-4}	1.3 10^{-10}	6.1 10^{-11}	4.0 10^{-11}	2.6 10^{-11}	2.2 10^{-11}
		S	0.005	2.0 10^{-10}	5.0 10^{-4}	1.4 10^{-10}	6.4 10^{-11}	4.1 10^{-11}	2.7 10^{-11}	2.3 10^{-11}
Curium										
Cm-238	2.40 h	F	0.005	7.7 10^{-9}	5.0 10^{-4}	5.4 10^{-9}	2.6 10^{-9}	1.8 10^{-9}	9.2 10^{-10}	7.8 10^{-10}
		M	0.005	2.1 10^{-8}	5.0 10^{-4}	1.5 10^{-8}	7.9 10^{-9}	5.9 10^{-9}	5.6 10^{-9}	4.5 10^{-9}
		S	0.005	2.2 10^{-8}	5.0 10^{-4}	1.6 10^{-8}	8.6 10^{-9}	6.4 10^{-9}	6.1 10^{-9}	4.9 10^{-9}
Cm-240	27.0 d	F	0.005	8.3 10^{-6}	5.0 10^{-4}	6.3 10^{-6}	3.2 10^{-6}	2.0 10^{-6}	1.5 10^{-6}	1.3 10^{-6}
		M	0.005	1.2 10^{-5}	5.0 10^{-4}	9.1 10^{-6}	5.8 10^{-6}	4.2 10^{-6}	3.8 10^{-6}	3.2 10^{-6}
		S	0.005	1.3 10^{-5}	5.0 10^{-4}	9.9 10^{-6}	6.4 10^{-6}	4.6 10^{-6}	4.3 10^{-6}	3.5 10^{-6}
Cm-241	32.8 d	F	0.005	1.1 10^{-7}	5.0 10^{-4}	8.9 10^{-8}	4.9 10^{-8}	3.5 10^{-8}	2.8 10^{-8}	2.7 10^{-8}
		M	0.005	1.3 10^{-7}	5.0 10^{-4}	1.0 10^{-7}	6.6 10^{-8}	4.8 10^{-8}	4.4 10^{-8}	3.7 10^{-8}
		S	0.005	1.4 10^{-7}	5.0 10^{-4}	1.1 10^{-7}	6.9 10^{-8}	4.9 10^{-8}	4.5 10^{-8}	3.7 10^{-8}
Cm-242	163 d	F	0.005	2.7 10^{-5}	5.0 10^{-4}	2.1 10^{-5}	1.0 10^{-5}	6.1 10^{-6}	4.0 10^{-6}	3.3 10^{-6}
		M	0.005	2.2 10^{-5}	5.0 10^{-4}	1.8 10^{-5}	1.1 10^{-5}	7.3 10^{-6}	6.4 10^{-6}	5.2 10^{-6}
		S	0.005	2.4 10^{-5}	5.0 10^{-4}	1.9 10^{-5}	1.2 10^{-5}	8.2 10^{-6}	7.3 10^{-6}	5.9 10^{-6}
Cm-243	28.5 a	F	0.005	1.6 10^{-4}	5.0 10^{-4}	1.5 10^{-4}	9.5 10^{-5}	7.3 10^{-5}	6.5 10^{-5}	6.9 10^{-5}
		M	0.005	6.7 10^{-5}	5.0 10^{-4}	6.1 10^{-5}	4.2 10^{-5}	3.1 10^{-5}	3.0 10^{-5}	3.1 10^{-5}
		S	0.005	4.6 10^{-5}	5.0 10^{-4}	4.0 10^{-5}	2.6 10^{-5}	1.8 10^{-5}	1.6 10^{-5}	1.5 10^{-5}
Cm-244	18.1 a	F	0.005	1.5 10^{-4}	5.0 10^{-4}	1.3 10^{-4}	8.3 10^{-5}	6.1 10^{-5}	5.3 10^{-5}	5.7 10^{-5}
		M	0.005	6.2 10^{-5}	5.0 10^{-4}	5.7 10^{-5}	3.7 10^{-5}	2.7 10^{-5}	2.6 10^{-5}	2.7 10^{-5}
		S	0.005	4.4 10^{-5}	5.0 10^{-4}	3.8 10^{-5}	2.5 10^{-5}	1.7 10^{-5}	1.5 10^{-5}	1.3 10^{-5}
Cm-245	8.50 10^{3} a	F	0.005	1.9 10^{-4}	5.0 10^{-4}	1.8 10^{-4}	1.2 10^{-4}	1.0 10^{-4}	9.4 10^{-5}	9.9 10^{-5}
		M	0.005	7.3 10^{-5}	5.0 10^{-4}	6.9 10^{-5}	5.1 10^{-5}	4.1 10^{-5}	4.1 10^{-5}	4.2 10^{-5}
		S	0.005	4.5 10^{-5}	5.0 10^{-4}	4.0 10^{-5}	2.7 10^{-5}	1.9 10^{-5}	1.7 10^{-5}	1.6 10^{-5}

TABLE B (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for inhaled radionuclides for members of the public. The values are also applied to students and apprentices who are over 16 but under 18 years of age, and who participate in the use of radiation sources for training purposes.

Nuclide	Physical half-life	Lung absorption type	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
			f_1 for $g \leq 1$ a	*h(g)*	f_1 for $g > 1$ a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)*
Cm-246	4.73 10^{3} a	F	0.005	1.9 10^{-4}	5.0 10^{-4}	1.8 10^{-4}	1.2 10^{-4}	1.0 10^{-4}	9.4 10^{-5}	9.8 10^{-5}
		M	0.005	7.3 10^{-5}	5.0 10^{-4}	6.9 10^{-5}	5.1 10^{-5}	4.1 10^{-5}	4.1 10^{-5}	4.2 10^{-5}
		S	0.005	4.6 10^{-5}	5.0 10^{-4}	4.0 10^{-5}	2.7 10^{-5}	1.9 10^{-5}	1.7 10^{-5}	1.6 10^{-5}
Cm-247	1.56 10^{7} a	F	0.005	1.7 10^{-4}	5.0 10^{-4}	1.6 10^{-4}	1.1 10^{-4}	9.4 10^{-5}	8.6 10^{-5}	9.0 10^{-5}
		M	0.005	6.7 10^{-5}	5.0 10^{-4}	6.3 10^{-5}	4.7 10^{-5}	3.7 10^{-5}	3.7 10^{-5}	3.9 10^{-5}
		S	0.005	4.1 10^{-5}	5.0 10^{-4}	3.6 10^{-5}	2.4 10^{-5}	1.7 10^{-5}	1.5 10^{-5}	1.4 10^{-5}
Cm-248	3.39 10^{5} a	F	0.005	6.8 10^{-4}	5.0 10^{-4}	6.5 10^{-4}	4.5 10^{-4}	3.7 10^{-4}	3.4 10^{-4}	3.6 10^{-4}
		M	0.005	2.5 10^{-4}	5.0 10^{-4}	2.4 10^{-4}	1.8 10^{-4}	1.4 10^{-4}	1.4 10^{-4}	1.5 10^{-4}
		S	0.005	1.4 10^{-4}	5.0 10^{-4}	1.2 10^{-4}	8.2 10^{-5}	5.6 10^{-5}	5.0 10^{-5}	4.8 10^{-5}
Cm-249	1.07 h	F	0.005	1.8 10^{-10}	5.0 10^{-4}	9.8 10^{-11}	5.9 10^{-11}	4.6 10^{-11}	4.0 10^{-11}	4.0 10^{-11}
		M	0.005	2.4 10^{-10}	5.0 10^{-4}	1.6 10^{-10}	8.2 10^{-11}	5.8 10^{-11}	3.7 10^{-11}	3.3 10^{-11}
		S	0.005	2.4 10^{-10}	5.0 10^{-4}	1.6 10^{-10}	7.8 10^{-11}	5.3 10^{-11}	3.9 10^{-11}	3.3 10^{-11}
Cm-250	6.90 10^{3} a	F	0.005	3.9 10^{-3}	5.0 10^{-4}	3.7 10^{-3}	2.6 10^{-3}	2.1 10^{-3}	2.0 10^{-3}	2.1 10^{-3}
		M	0.005	1.4 10^{-3}	5.0 10^{-4}	1.3 10^{-3}	9.9 10^{-4}	7.9 10^{-4}	7.9 10^{-4}	8.4 10^{-4}
		S	0.005	7.2 10^{-4}	5.0 10^{-4}	6.5 10^{-4}	4.4 10^{-4}	3.0 10^{-4}	2.7 10^{-4}	2.6 10^{-4}
Berkelium										
Bk-245	4.94 d	M	0.005	8.8 10^{-9}	5.0 10^{-4}	6.6 10^{-9}	4.0 10^{-9}	2.9 10^{-9}	2.6 10^{-9}	2.1 10^{-9}
Bk-246	1.83 d	M	0.005	2.1 10^{-9}	5.0 10^{-4}	1.7 10^{-9}	9.3 10^{-10}	6.0 10^{-10}	4.0 10^{-10}	3.3 10^{-10}
Bk-247	1.38 10^{3} a	M	0.005	1.5 10^{-4}	5.0 10^{-4}	1.5 10^{-4}	1.1 10^{-4}	7.9 10^{-5}	7.2 10^{-5}	6.9 10^{-5}
Bk-249	320 d	M	0.005	3.3 10^{-7}	5.0 10^{-4}	3.3 10^{-7}	2.4 10^{-7}	1.8 10^{-7}	1.6 10^{-7}	1.6 10^{-7}
Bk-250	3.22 h	M	0.005	3.4 10^{-9}	5.0 10^{-4}	3.1 10^{-9}	2.0 10^{-9}	1.3 10^{-9}	1.1 10^{-9}	1.0 10^{-9}
Californium										
Cf-244	0.323 h	M	0.005	7.6 10^{-8}	5.0 10^{-4}	5.4 10^{-8}	2.8 10^{-8}	2.0 10^{-8}	1.6 10^{-8}	1.4 10^{-8}
Cf-246	1.49 d	M	0.005	1.7 10^{-6}	5.0 10^{-4}	1.3 10^{-6}	8.3 10^{-7}	6.1 10^{-7}	5.7 10^{-7}	4.5 10^{-7}
Cf-248	334 d	M	0.005	3.8 10^{-5}	5.0 10^{-4}	3.2 10^{-5}	2.1 10^{-5}	1.4 10^{-5}	1.0 10^{-5}	8.8 10^{-6}
Cf-249	350 10^{2} a	M	0.005	1.6 10^{-4}	5.0 10^{-4}	1.5 10^{-4}	1.1 10^{-4}	8.0 10^{-5}	7.2 10^{-5}	7.0 10^{-5}
Cf-250	13.1 a	M	0.005	1.1 10^{-4}	5.0 10^{-4}	9.8 10^{-5}	6.6 10^{-5}	4.2 10^{-5}	3.5 10^{-5}	3.4 10^{-5}
Cf-251	8.98 10^{2} a	M	0.005	1.6 10^{-4}	5.0 10^{-4}	1.5 10^{-4}	1.1 10^{-4}	8.1 10^{-5}	7.3 10^{-5}	7.1 10^{-5}
Cf-252	2.64 a	M	0.005	9.7 10^{-5}	5.0 10^{-4}	8.7 10^{-5}	5.6 10^{-5}	3.2 10^{-5}	2.2 10^{-5}	2.0 10^{-5}
Cf-253	17.8 d	M	0.005	5.4 10^{-6}	5.0 10^{-4}	4.2 10^{-6}	2.6 10^{-6}	1.9 10^{-6}	1.7 10^{-6}	1.3 10^{-6}
Cf-254	60.5 d	M	0.005	2.5 10^{-4}	5.0 10^{-4}	1.9 10^{-4}	1.1 10^{-4}	7.0 10^{-5}	4.8 10^{-5}	4.1 10^{-5}
Einsteinium										
Es-250	2.10 h	M	0.005	2.0 10^{-9}	5.0 10^{-4}	1.8 10^{-9}	1.2 10^{-9}	7.8 10^{-10}	6.4 10^{-10}	6.3 10^{-10}
Es-251	1.38 d	M	0.005	7.9 10^{-9}	5.0 10^{-4}	6.0 10^{-9}	3.9 10^{-9}	2.8 10^{-9}	2.6 10^{-9}	2.1 10^{-9}
Es-253	20.5 d	M	0.005	1.1 10^{-5}	5.0 10^{-4}	8.0 10^{-6}	5.1 10^{-6}	3.7 10^{-6}	3.4 10^{-6}	2.7 10^{-6}
Es-254	276 d	M	0.005	3.7 10^{-5}	5.0 10^{-4}	3.1 10^{-5}	2.0 10^{-5}	1.3 10^{-5}	1.0 10^{-5}	8.6 10^{-6}
Es-254m	1.64 d	M	0.005	1.7 10^{-6}	5.0 10^{-4}	1.3 10^{-6}	8.4 10^{-7}	6.3 10^{-7}	5.9 10^{-7}	4.7 10^{-7}
Fermium										
Fm-252	22.7 h	M	0.005	1.2 10^{-6}	5.0 10^{-4}	9.0 10^{-7}	5.8 10^{-7}	4.3 10^{-7}	4.0 10^{-7}	3.2 10^{-7}
Fm-253	3.00 d	M	0.005	1.5 10^{-6}	5.0 10^{-4}	1.2 10^{-6}	7.3 10^{-7}	5.4 10^{-7}	5.0 10^{-7}	4.0 10^{-7}
Fm-254	3.24 h	M	0.005	3.2 10^{-7}	5.0 10^{-4}	2.3 10^{-7}	1.3 10^{-7}	9.8 10^{-8}	7.6 10^{-8}	6.1 10^{-8}
Fm-255	20.1 h	M	0.005	1.2 10^{-6}	5.0 10^{-4}	7.3 10^{-7}	4.7 10^{-7}	3.5 10^{-7}	3.4 10^{-7}	2.7 10^{-7}
Fm-257	101 d	M	0.005	3.3 10^{-5}	5.0 10^{-4}	2.6 10^{-5}	1.6 10^{-5}	1.1 10^{-5}	8.8 10^{-6}	7.1 10^{-6}
Mendelevium										
Md-257	5.20 h	M	0.005	1.0 10^{-7}	5.0 10^{-4}	8.2 10^{-8}	5.1 10^{-8}	3.6 10^{-8}	3.1 10^{-8}	2.5 10^{-8}
Md-258	55.0 d	M	0.005	2.4 10^{-5}	5.0 10^{-4}	1.9 10^{-5}	1.2 10^{-5}	8.6 10^{-6}	7.3 10^{-6}	5.9 10^{-6}

TABLE C1

Values of dose conversion factors *h(g)* ($Sv \cdot Bq^{-1}$) for ingested or inhaled radionuclides for exposed workers.

Nuclide	Physical half-life	Inhalation				Ingestion	
		Lung absorption type	f_1	$h(g)_{1\,\mu m}$	$h(g)_{5\,\mu m}$	f_1	$h(g)$
Hydrogen							
Tritiated water	12.3 a	See Table C 2				1.000	$1.8\ 10^{-11}$
OBT [1]	12.3 a	See Table C 2				1.000	$4.2\ 10^{-11}$
Beryllium							
Be-7	53.3 d	M [2]	0.005	$4.8\ 10^{-11}$	$4.3\ 10^{-11}$	0.005	$2.8\ 10^{-11}$
		S [3]	0.005	$5.2\ 10^{-11}$	$4.6\ 10^{-11}$		
Be-10	$1.60\ 10^{6}$ a	M	0.005	$9.1\ 10^{-9}$	$6.7\ 10^{-9}$	0.005	$1.1\ 10^{-9}$
		S	0.005	$3.2\ 10^{-8}$	$1.9\ 10^{-8}$		
Carbon							
C-11	0.340 h	See Table C 2				1.000	$2.4\ 10^{-11}$
C-14	$5.73\ 10^{3}$ a	See Table C 2				1.000	$5.8\ 10^{-10}$
Fluorine							
F-18	1.83 h	F [4]	1.000	$3.0\ 10^{-11}$	$5.4\ 10^{-11}$	1.000	$4.9\ 10^{-11}$
		M	1.000	$5.7\ 10^{-11}$	$8.9\ 10^{-11}$		
		S	1.000	$6.0\ 10^{-11}$	$9.3\ 10^{-11}$		
Sodium							
Na-22	2.60 a	F	1.000	$1.3\ 10^{-9}$	$2.0\ 10^{-9}$	1.000	$3.2\ 10^{-9}$
Na-24	15.0 h	F	1.000	$2.9\ 10^{-10}$	$5.3\ 10^{-10}$	1.000	$4.3\ 10^{-10}$
Magnesium							
Mg-28	20.9 h	F	0.500	$6.4\ 10^{-10}$	$1.1\ 10^{-9}$	0.500	$2.2\ 10^{-9}$
		M	0.500	$1.2\ 10^{-9}$	$1.7\ 10^{-9}$		
Aluminium							
Al-26	$7.16\ 10^{5}$ a	F	0.010	$1.1\ 10^{-8}$	$1.4\ 10^{-8}$	0.010	$3.5\ 10^{-9}$
		M	0.010	$1.8\ 10^{-8}$	$1.2\ 10^{-8}$		
Silicon							
Si-31	2.62 h	F	0.010	$2.9\ 10^{-11}$	$5.1\ 10^{-11}$	0.010	$1.6\ 10^{-10}$
		M	0.010	$7.5\ 10^{-11}$	$1.1\ 10^{-10}$		
		S	0.010	$8.0\ 10^{-11}$	$1.1\ 10^{-10}$		
Si-32	$4.50\ 10^{2}$ a	F	0.010	$3.2\ 10^{-9}$	$3.7\ 10^{-9}$	0.010	$5.6\ 10^{-10}$
		M	0.010	$1.5\ 10^{-8}$	$9.6\ 10^{-9}$		
		S	0.010	$1.1\ 10^{-7}$	$5.5\ 10^{-8}$		
Phosphorus							
P-32	14.3 d	F	0.800	$8.0\ 10^{-10}$	$1.1\ 10^{-9}$	0.800	$2.4\ 10^{-9}$
		M	0.800	$3.2\ 10^{-9}$	$2.9\ 10^{-9}$		
P-33	25.4 d	F	0.800	$9.6\ 10^{-11}$	$1.4\ 10^{-10}$	0.800	$2.4\ 10^{-10}$
		M	0.800	$1.4\ 10^{-9}$	$1.3\ 10^{-9}$		
Sulphur							
S-35 (inorganic)	87.4 d	F	0.800	$5.3\ 10^{-11}$	$8.0\ 10^{-10}$	0.800	$1.4\ 10^{-10}$
		M	0.800	$1.3\ 10^{-9}$	$1.1\ 10^{-9}$	0.100	$1.9\ 10^{-10}$
S-35 (organic)	87.4 d	See Table C 2				1.000	$7.7\ 10^{-10}$
Chlorine							
Cl-36	$3.01\ 10^{5}$ a	F	1.000	$3.4\ 10^{-10}$	$4.9\ 10^{-10}$	1.000	$9.3\ 10^{-10}$
		M	1.000	$6.9\ 10^{-9}$	$5.1\ 10^{-9}$		
Cl-38	0.620 h	F	1.000	$2.7\ 10^{-11}$	$4.6\ 10^{-11}$	1.000	$1.2\ 10^{-10}$
		M	1.000	$4.7\ 10^{-11}$	$7.3\ 10^{-11}$		
Cl-39	0.927 h	F	1.000	$2.7\ 10^{-11}$	$4.8\ 10^{-11}$	1.000	$8.5\ 10^{-11}$
		M	1.000	$4.8\ 10^{-11}$	$7.6\ 10^{-11}$		

1) OBT = organically bound tritium.
2) Type M: moderate absorption from the lungs.
3) Type S: slow absorption from the lungs.
4) Type F: fast absorption from the lungs.

TABLE C1 (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested or inhaled radionuclides for exposed workers.

Nuclide	Physical half-life	Inhalation				Ingestion	
		Lung absorption type	f_1	$h(g)_{1\ \mu m}$	$h(g)_{5\ \mu m}$	f_1	$h(g)$
Potassium							
K-40	1.28 10^{9} a	F	1.000	2.1 10^{-9}	3.0 10^{-9}	1.000	6.2 10^{-9}
K-42	12.4 h	F	1.000	1.3 10^{-10}	2.0 10^{-10}	1.000	4.3 10^{-10}
K-43	22.6 h	F	1.000	1.5 10^{-10}	2.6 10^{-10}	1.000	2.5 10^{-10}
K-44	0.369 h	F	1.000	2.1 10^{-11}	3.7 10^{-11}	1.000	8.4 10^{-11}
K-45	0.333 h	F	1.000	1.6 10^{-11}	2.8 10^{-11}	1.000	5.4 10^{-11}
Calcium							
Ca-41	1.40 10^{5} a	M	0.300	1.7 10^{-10}	1.9 10^{-10}	0.300	2.9 10^{-10}
Ca-45	163 d	M	0.300	2.7 10^{-9}	2.3 10^{-9}	0.300	7.6 10^{-10}
Ca-47	4.53 d	M	0.300	1.8 10^{-9}	2.1 10^{-9}	0.300	1.6 10^{-9}
Scandium							
Sc-43	3.89 h	S	1.0 10^{-4}	1.2 10^{-10}	1.8 10^{-10}	1.0 10^{-4}	1.9 10^{-10}
Sc-44	3.93 h	S	1.0 10^{-4}	1.9 10^{-10}	3.0 10^{-10}	1.0 10^{-4}	3.5 10^{-10}
Sc-44m	2.44 d	S	1.0 10^{-4}	1.5 10^{-9}	2.0 10^{-9}	1.0 10^{-4}	2.4 10^{-9}
Sc-46	83.8 d	S	1.0 10^{-4}	6.4 10^{-9}	4.8 10^{-9}	1.0 10^{-4}	1.5 10^{-9}
Sc-47	3.35 d	S	1.0 10^{-4}	7.0 10^{-10}	7.3 10^{-10}	1.0 10^{-4}	5.4 10^{-10}
Sc-48	1.82 d	S	1.0 10^{-4}	1.1 10^{-9}	1.6 10^{-9}	1.0 10^{-4}	1.7 10^{-9}
Sc-49	0.956 h	S	1.0 10^{-4}	4.1 10^{-11}	6.1 10^{-11}	1.0 10^{-4}	8.2 10^{-11}
Titanium							
Ti-44	47.3 a	F	0.010	6.1 10^{-8}	7.2 10^{-8}	0.010	5.8 10^{-9}
		M	0.010	4.0 10^{-8}	2.7 10^{-8}		
		S	0.010	1.2 10^{-7}	6.2 10^{-8}		
Ti-45	3.08 h	F	0.010	4.6 10^{-11}	8.3 10^{-11}	0.010	1.5 10^{-10}
		M	0.010	9.1 10^{-11}	1.4 10^{-10}		
		S	0.010	9.6 10^{-11}	1.5 10^{-10}		
Vanadium							
V-47	0.543 h	F	0.010	1.9 10^{-11}	3.2 10^{-11}	0.010	6.3 10^{-11}
		M	0.010	3.1 10^{-11}	5.0 10^{-11}		
V-48	16.2 d	F	0.010	1.1 10^{-9}	1.7 10^{-9}	0.010	2.0 10^{-9}
		M	0.010	2.3 10^{-9}	2.7 10^{-9}		
V-49	330 d	F	0.010	2.1 10^{-11}	2.6 10^{-11}	0.010	1.8 10^{-11}
		M	0.010	3.2 10^{-11}	2.3 10^{-11}		
Chromium							
Cr-48	23.0 h	F	0.100	1.0 10^{-10}	1.7 10^{-10}	0.100	2.0 10^{-10}
		M	0.100	2.0 10^{-10}	2.3 10^{-10}	0.010	2.0 10^{-10}
		S	0.100	2.2 10^{-10}	2.5 10^{-10}		
Cr-49	0.702 h	F	0.100	2.0 10^{-11}	3.5 10^{-11}	0.100	6.1 10^{-11}
		M	0.100	3.5 10^{-11}	5.6 10^{-11}	0.010	6.1 10^{-11}
		S	0.100	3.7 10^{-11}	5.9 10^{-11}		
Cr-51	27.7 d	F	0.100	2.1 10^{-11}	3.0 10^{-11}	0.100	3.8 10^{-11}
		M	0.100	3.1 10^{-11}	3.4 10^{-11}	0.010	3.7 10^{-11}
		S	0.100	3.6 10^{-11}	3.6 10^{-11}		
Manganese							
Mn-51	0.770 h	F	0.100	2.4 10^{-11}	4.2 10^{-11}	0.100	9.3 10^{-11}
		M	0.100	4.3 10^{-11}	6.8 10^{-11}		
Mn-52	5.59 d	F	0.100	9.9 10^{-10}	1.6 10^{-9}	0.100	1.8 10^{-9}
		M	0.100	1.4 10^{-9}	1.8 10^{-9}		
Mn-52m	0.352 h	F	0.100	2.0 10^{-11}	3.5 10^{-11}	0.100	6.9 10^{-11}
		M	0.100	3.0 10^{-11}	5.0 10^{-11}		
Mn-53	3.70 10^{6} a	F	0.100	2.9 10^{-11}	3.6 10^{-11}	0.100	3.0 10^{-11}
		M	0.100	5.2 10^{-11}	3.6 10^{-11}		
Mn-54	312 d	F	0.100	8.7 10^{-10}	1.1 10^{-9}	0.100	7.1 10^{-10}
		M	0.100	1.5 10^{-9}	1.2 10^{-9}		
Mn-56	2.58 h	F	0.100	6.9 10^{-11}	1.2 10^{-10}	0.100	2.5 10^{-10}
		M	0.100	1.3 10^{-10}	2.0 10^{-10}		
Iron							
Fe-52	8.28 h	F	0.100	4.1 10^{-10}	6.9 10^{-10}	0.100	1.4 10^{-9}
		M	0.100	6.3 10^{-10}	9.5 10^{-10}		
Fe-55	2.70 a	F	0.100	7.7 10^{-10}	9.2 10^{-10}	0.100	3.3 10^{-10}
		M	0.100	3.7 10^{-10}	3.3 10^{-10}		

TABLE C1 (continues)

Values of dose conversion factors *h(g)* ($Sv \cdot Bq^{-1}$) for ingested or inhaled radionuclides for exposed workers.

Nuclide	Physical half-life	Inhalation				Ingestion	
		Lung absorption type	f_1	$h(g)_{1\,\mu m}$	$h(g)_{5\,\mu m}$	f_1	$h(g)$
Fe-59	44.5 d	F	0.100	$2.2\ 10^{-9}$	$3.0\ 10^{-9}$	0.100	$1.8\ 10^{-9}$
		M	0.100	$3.5\ 10^{-9}$	$3.2\ 10^{-9}$		
Fe-60	$1.00\ 10^{5}$ a	F	0.100	$2.8\ 10^{-7}$	$3.3\ 10^{-7}$	0.100	$1.1\ 10^{-7}$
		M	0.100	$1.3\ 10^{-7}$	$1.2\ 10^{-7}$		
Cobalt							
Co-55	17.5 h	M	0.100	$5.1\ 10^{-10}$	$7.8\ 10^{-10}$	0.100	$1.0\ 10^{-9}$
		S	0.050	$5.5\ 10^{-10}$	$8.3\ 10^{-10}$	0.050	$1.1\ 10^{-9}$
Co-56	78.7 d	M	0.100	$4.6\ 10^{-9}$	$4.0\ 10^{-9}$	0.100	$2.5\ 10^{-9}$
		S	0.050	$6.3\ 10^{-9}$	$4.9\ 10^{-9}$	0.050	$2.3\ 10^{-9}$
Co-57	271 d	M	0.100	$5.2\ 10^{-10}$	$3.9\ 10^{-10}$	0.100	$2.1\ 10^{-10}$
		S	0.050	$9.4\ 10^{-10}$	$6.0\ 10^{-10}$	0.050	$1.9\ 10^{-10}$
Co-58	70.8 d	M	0.100	$1.5\ 10^{-9}$	$1.4\ 10^{-9}$	0.100	$7.4\ 10^{-10}$
		S	0.050	$2.0\ 10^{-9}$	$1.7\ 10^{-9}$	0.050	$7.0\ 10^{-10}$
Co-58m	9.15 h	M	0.100	$1.3\ 10^{-11}$	$1.5\ 10^{-11}$	0.100	$2.4\ 10^{-11}$
		S	0.050	$1.6\ 10^{-11}$	$1.7\ 10^{-11}$	0.050	$2.4\ 10^{-11}$
Co-60	5.27 a	M	0.100	$9.6\ 10^{-9}$	$7.1\ 10^{-9}$	0.100	$3.4\ 10^{-9}$
		S	0.050	$2.9\ 10^{-8}$	$1.7\ 10^{-8}$	0.050	$2.5\ 10^{-9}$
Co-60m	0.174 h	M	0.100	$1.1\ 10^{-12}$	$1.2\ 10^{-12}$	0.100	$1.7\ 10^{-12}$
		S	0.050	$1.3\ 10^{-12}$	$1.2\ 10^{-12}$	0.050	$1.7\ 10^{-12}$
Co-61	1.65 h	M	0.100	$4.8\ 10^{-11}$	$7.1\ 10^{-11}$	0.100	$7.4\ 10^{-11}$
		S	0.050	$5.1\ 10^{-11}$	$7.5\ 10^{-11}$	0.050	$7.4\ 10^{-11}$
Co-62m	0.232 h	M	0.100	$2.1\ 10^{-11}$	$3.6\ 10^{-11}$	0.100	$4.7\ 10^{-11}$
		S	0.050	$2.2\ 10^{-11}$	$3.7\ 10^{-11}$	0.050	$4.7\ 10^{-11}$
Nickel							
Ni-56	6.10 d	F	0.050	$5.1\ 10^{-10}$	$7.9\ 10^{-10}$	0.050	$8.6\ 10^{-10}$
		M	0.050	$8.6\ 10^{-10}$	$9.6\ 10^{-10}$		
Ni-57	1.50 d	F	0.050	$2.8\ 10^{-10}$	$5.0\ 10^{-10}$	0.050	$8.7\ 10^{-10}$
		M	0.050	$5.1\ 10^{-10}$	$7.6\ 10^{-10}$		
Ni-59	$7.50\ 10^{4}$ a	F	0.050	$1.8\ 10^{-10}$	$2.2\ 10^{-10}$	0.050	$6.3\ 10^{-11}$
		M	0.050	$1.3\ 10^{-10}$	$9.4\ 10^{-11}$		
Ni-63	96.0 a	F	0.050	$4.4\ 10^{-10}$	$5.2\ 10^{-10}$	0.050	$1.5\ 10^{-10}$
		M	0.050	$4.4\ 10^{-10}$	$3.1\ 10^{-10}$		
Ni-65	2.52 h	F	0.050	$4.4\ 10^{-11}$	$7.5\ 10^{-11}$	0.050	$1.8\ 10^{-10}$
		M	0.050	$8.7\ 10^{-11}$	$1.3\ 10^{-10}$		
Ni-66	2.27 d	F	0.050	$4.5\ 10^{-10}$	$7.6\ 10^{-10}$	0.050	$3.0\ 10^{-9}$
		M	0.050	$1.6\ 10^{-9}$	$1.9\ 10^{-9}$		
Copper							
Cu-60	0.387 h	F	0.500	$2.4\ 10^{-11}$	$4.4\ 10^{-11}$	0.500	$7.0\ 10^{-11}$
		M	0.500	$3.5\ 10^{-11}$	$6.0\ 10^{-11}$		
		S	0.500	$3.6\ 10^{-11}$	$6.2\ 10^{-11}$		
Cu-61	3.41 h	F	0.500	$4.0\ 10^{-11}$	$7.3\ 10^{-11}$	0.500	$1.2\ 10^{-10}$
		M	0.500	$7.6\ 10^{-11}$	$1.2\ 10^{-10}$		
		S	0.500	$8.0\ 10^{-11}$	$1.2\ 10^{-10}$		
Cu-64	12.7 h	F	0.500	$3.8\ 10^{-11}$	$6.8\ 10^{-11}$	0.500	$1.2\ 10^{-10}$
		M	0.500	$1.1\ 10^{-10}$	$1.5\ 10^{-10}$		
		S	0.500	$1.2\ 10^{-10}$	$1.5\ 10^{-10}$		
Cu-67	2.58 d	F	0.500	$1.1\ 10^{-10}$	$1.8\ 10^{-10}$	0.500	$3.4\ 10^{-10}$
		M	0.500	$5.2\ 10^{-10}$	$5.3\ 10^{-10}$		
		S	0.500	$5.8\ 10^{-10}$	$5.8\ 10^{-10}$		
Zinc							
Zn-62	9.26 h	S	0.500	$4.7\ 10^{-10}$	$6.6\ 10^{-10}$	0.500	$9.4\ 10^{-10}$
Zn-63	0.635 h	S	0.500	$3.8\ 10^{-11}$	$6.1\ 10^{-11}$	0.500	$7.9\ 10^{-11}$
Zn-65	244 d	S	0.500	$2.9\ 10^{-9}$	$2.8\ 10^{-9}$	0.500	$3.9\ 10^{-9}$
Zn-69	0.950 h	S	0.500	$2.8\ 10^{-11}$	$4.3\ 10^{-11}$	0.500	$3.1\ 10^{-11}$
Zn-69m	13.8 h	S	0.500	$2.6\ 10^{-10}$	$3.3\ 10^{-10}$	0.500	$3.3\ 10^{-10}$
Zn-71m	3.92 h	S	0.500	$1.6\ 10^{-10}$	$2.4\ 10^{-10}$	0.500	$2.4\ 10^{-10}$
Zn-72	1.94 d	S	0.500	$1.2\ 10^{-9}$	$1.5\ 10^{-9}$	0.500	$1.4\ 10^{-9}$
Gallium							
Ga-65	0.253 h	F	0.001	$1.2\ 10^{-11}$	$2.0\ 10^{-11}$	0.001	$3.7\ 10^{-11}$
		M	0.001	$1.8\ 10^{-11}$	$2.9\ 10^{-11}$		
Ga-66	9.40 h	F	0.001	$2.7\ 10^{-10}$	$4.7\ 10^{-10}$	0.001	$1.2\ 10^{-9}$
		M	0.001	$4.6\ 10^{-10}$	$7.1\ 10^{-10}$		

TABLE C1 (continues)
Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested or inhaled radionuclides for exposed workers.

Nuclide	Physical half-life	Inhalation				Ingestion	
		Lung absorption type	f_1	$h(g)_{1\ \mu m}$	$h(g)_{5\ \mu m}$	f_1	$h(g)$
Ga-67	3.26 d	F	0.001	6.8 10^{-11}	1.1 10^{-10}	0.001	1.9 10^{-10}
		M	0.001	2.3 10^{-10}	2.8 10^{-10}		
Ga-68	1.13 h	F	0.001	2.8 10^{-11}	4.9 10^{-11}	0.001	1.0 10^{-10}
		M	0.001	5.1 10^{-11}	8.1 10^{-11}		
Ga-70	0.353 h	F	0.001	9.3 10^{-12}	1.6 10^{-11}	0.001	3.1 10^{-11}
		M	0.001	1.6 10^{-11}	2.6 10^{-11}		
Ga-72	14.1 h	F	0.001	3.1 10^{-10}	5.6 10^{-10}	0.001	1.1 10^{-9}
		M	0.001	5.5 10^{-10}	8.4 10^{-10}		
Ga-73	4.91 h	F	0.001	5.8 10^{-11}	1.0 10^{-10}	0.001	2.6 10^{-10}
		M	0.001	1.5 10^{-10}	2.0 10^{-10}		
Germanium							
Ge-66	2.27 h	F	1.000	5.7 10^{-11}	9.9 10^{-11}	1.000	1.0 10^{-10}
		M	1.000	9.2 10^{-11}	1.3 10^{-10}		
Ge-67	0.312 h	F	1.000	1.6 10^{-11}	2.8 10^{-11}	1.000	6.5 10^{-11}
		M	1.000	2.6 10^{-11}	4.2 10^{-11}		
Ge-68	288 d	F	1.000	5.4 10^{-10}	8.3 10^{-10}	1.000	1.3 10^{-9}
		M	1.000	1.3 10^{-8}	7.9 10^{-9}		
Ge-69	1.63 d	F	1.000	1.4 10^{-10}	2.5 10^{-10}	1.000	2.4 10^{-10}
		M	1.000	2.9 10^{-10}	3.7 10^{-10}		
Ge-71	11.8 d	F	1.000	5.0 10^{-12}	7.8 10^{-12}	1.000	1.2 10^{-11}
		M	1.000	1.0 10^{-11}	1.1 10^{-11}		
Ge-75	1.38 h	F	1.000	1.6 10^{-11}	2.7 10^{-11}	1.000	4.6 10^{-11}
		M	1.000	3.7 10^{-11}	5.4 10^{-11}		
Ge-77	11.3 h	F	1.000	1.5 10^{-10}	2.5 10^{-10}	1.000	3.3 10^{-10}
		M	1.000	3.6 10^{-10}	4.5 10^{-10}		
Ge-78	1.45 h	F	1.000	4.8 10^{-11}	8.1 10^{-11}	1.000	1.2 10^{-10}
		M	1.000	9.7 10^{-11}	1.4 10^{-10}		
Arsenic							
As-69	0.253 h	M	0.500	2.2 10^{-11}	3.5 10^{-11}	0.500	5.7 10^{-11}
As-70	0.876 h	M	0.500	7.2 10^{-11}	1.2 10^{-10}	0.500	1.3 10^{-10}
As-71	2.70 d	M	0.500	4.0 10^{-10}	5.0 10^{-10}	0.500	4.6 10^{-10}
As-72	1.08 d	M	0.500	9.2 10^{-10}	1.3 10^{-9}	0.500	1.8 10^{-9}
As-73	80.3 d	M	0.500	9.3 10^{-10}	6.5 10^{-10}	0.500	2.6 10^{-10}
As-74	17.8 d	M	0.500	2.1 10^{-9}	1.8 10^{-9}	0.500	1.3 10^{-9}
As-76	1.10 d	M	0.500	7.4 10^{-10}	9.2 10^{-10}	0.500	1.6 10^{-9}
As-77	1.62 d	M	0.500	3.8 10^{-10}	4.2 10^{-10}	0.500	4.0 10^{-10}
As-78	1.51 h	M	0.500	9.2 10^{-11}	1.4 10^{-10}	0.500	2.1 10^{-10}
Selenium							
Se-70	0.683 h	F	0.800	4.5 10^{-11}	8.2 10^{-11}	0.800	1.2 10^{-10}
		M	0.800	7.3 10^{-11}	1.2 10^{-10}	0.050	1.4 10^{-10}
Se-73	7.15 h	F	0.800	8.6 10^{-11}	1.5 10^{-10}	0.800	2.1 10^{-10}
		M	0.800	1.6 10^{-10}	2.4 10^{-10}	0.050	3.9 10^{-10}
Se-73m	0.650 h	F	0.800	9.9 10^{-12}	1.7 10^{-11}	0.800	2.8 10^{-11}
		M	0.800	1.8 10^{-11}	2.7 10^{-11}	0.050	4.1 10^{-11}
Se-75	120 d	F	0.800	1.0 10^{-9}	1.4 10^{-9}	0.800	2.6 10^{-9}
		M	0.800	1.4 10^{-9}	1.7 10^{-9}	0.050	4.1 10^{-10}
Se-79	6.50 10^{4} a	F	0.800	1.2 10^{-9}	1.6 10^{-9}	0.800	2.9 10^{-9}
		M	0.800	2.9 10^{-9}	3.1 10^{-9}	0.050	3.9 10^{-10}
Se-81	0.308 h	F	0.800	8.6 10^{-12}	1.4 10^{-11}	0.800	2.7 10^{-11}
		M	0.800	1.5 10^{-11}	2.4 10^{-11}	0.050	2.7 10^{-11}
Se-81m	0.954 h	F	0.800	1.7 10^{-11}	3.0 10^{-11}	0.800	5.3 10^{-11}
		M	0.800	4.7 10^{-11}	6.8 10^{-11}	0.050	5.9 10^{-11}
Se-83	0.375 h	F	0.800	1.9 10^{-11}	3.4 10^{-11}	0.800	4.7 10^{-11}
		M	0.800	3.3 10^{-11}	5.3 10^{-11}	0.050	5.1 10^{-11}
Bromine							
Br-74	0.422 h	F	1.000	2.8 10^{-11}	5.0 10^{-11}	1.000	8.4 10^{-11}
		M	1.000	4.1 10^{-11}	6.8 10^{-11}		
Br-74m	0.691 h	F	1.000	4.2 10^{-11}	7.5 10^{-11}	1.000	1.4 10^{-10}
		M	1.000	6.5 10^{-11}	1.1 10^{-10}		
Br-75	1.63 h	F	1.000	3.1 10^{-11}	5.6 10^{-11}	1.000	7.9 10^{-11}
		M	1.000	5.5 10^{-11}	8.5 10^{-11}		
Br-76	16.2 h	F	1.000	2.6 10^{-10}	4.5 10^{-10}	1.000	4.6 10^{-10}
		M	1.000	4.2 10^{-10}	5.8 10^{-10}		

TABLE C1 (continues)
Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested or inhaled radionuclides for exposed workers.

Nuclide	Physical half-life	Inhalation				Ingestion	
		Lung absorption type	f_1	$h(g)_{1\,\mu m}$	$h(g)_{5\,\mu m}$	f_1	$h(g)$
Br-77	2.33 d	F	1.000	6.7 10^{-11}	1.2 10^{-10}	1.000	9.6 10^{-11}
		M	1.000	8.7 10^{-11}	1.3 10^{-10}		
Br-80	0.290 h	F	1.000	6.3 10^{-12}	1.1 10^{-11}	1.000	3.1 10^{-11}
		M	1.000	1.0 10^{-11}	1.7 10^{-11}		
Br-80m	4.42 h	F	1.000	3.5 10^{-11}	5.8 10^{-11}	1.000	1.1 10^{-10}
		M	1.000	7.6 10^{-11}	1.0 10^{-10}		
Br-82	1.47 d	F	1.000	3.7 10^{-10}	6.4 10^{-10}	1.000	5.4 10^{-10}
		M	1.000	6.4 10^{-10}	8.8 10^{-10}		
Br-83	2.39 h	F	1.000	1.7 10^{-11}	2.9 10^{-11}	1.000	4.3 10^{-11}
		M	1.000	4.8 10^{-11}	6.7 10^{-11}		
Br-84	0.530 h	F	1.000	2.3 10^{-11}	4.0 10^{-11}	1.000	8.8 10^{-11}
		M	1.000	3.9 10^{-11}	6.2 10^{-11}		
Rubidium							
Rb-79	0.382 h	F	1.000	1.7 10^{-11}	3.0 10^{-11}	1.000	5.0 10^{-11}
Rb-81	4.58 h	F	1.000	3.7 10^{-11}	6.8 10^{-11}	1.000	5.4 10^{-11}
Rb-81m	0.533 h	F	1.000	7.3 10^{-12}	1.3 10^{-11}	1.000	9.7 10^{-12}
Rb-82m	6.20 h	F	1.000	1.2 10^{-10}	2.2 10^{-10}	1.000	1.3 10^{-10}
Rb-83	86.2 d	F	1.000	7.1 10^{-10}	1.0 10^{-9}	1.000	1.9 10^{-9}
Rb-84	32.8 d	F	1.000	1.1 10^{-9}	1.5 10^{-9}	1.000	2.8 10^{-9}
Rb-86	18.6 d	F	1.000	9.6 10^{-10}	1.3 10^{-9}	1.000	2.8 10^{-9}
Rb-87	4.70 10^{10} a	F	1.000	5.1 10^{-10}	7.6 10^{-10}	1.000	1.5 10^{-9}
Rb-88	0.297 h	F	1.000	1.7 10^{-11}	2.8 10^{-11}	1.000	9.0 10^{-11}
Rb-89	0.253 h	F	1.000	1.4 10^{-11}	2.5 10^{-11}	1.000	4.7 10^{-11}
Strontium							
Sr-80	1.67 h	F	0.300	7.6 10^{-11}	1.3 10^{-10}	0.300	3.4 10^{-10}
		S	0.010	1.4 10^{-10}	2.1 10^{-10}	0.010	3.5 10^{-10}
Sr-81	0.425 h	F	0.300	2.2 10^{-11}	3.9 10^{-11}	0.300	7.7 10^{-11}
		S	0.010	3.8 10^{-11}	6.1 10^{-11}	0.010	7.8 10^{-11}
Sr-82	25.0 d	F	0.300	2.2 10^{-9}	3.3 10^{-9}	0.300	6.1 10^{-9}
		S	0.010	1.0 10^{-8}	7.7 10^{-9}	0.010	6.0 10^{-9}
Sr-83	1.35 d	F	0.300	1.7 10^{-10}	3.0 10^{-10}	0.300	4.9 10^{-10}
		S	0.010	3.4 10^{-10}	4.9 10^{-10}	0.010	5.8 10^{-10}
Sr-85	64.8 d	F	0.300	3.9 10^{-10}	5.6 10^{-10}	0.300	5.6 10^{-10}
		S	0.010	7.7 10^{-10}	6.4 10^{-10}	0.010	3.3 10^{-10}
Sr-85m	1.16 h	F	0.300	3.1 10^{-12}	5.6 10^{-12}	0.300	6.1 10^{-12}
		S	0.010	4.5 10^{-12}	7.4 10^{-12}	0.010	6.1 10^{-12}
Sr-87m	2.80 h	F	0.300	1.2 10^{-11}	2.2 10^{-11}	0.300	3.0 10^{-11}
		S	0.010	2.2 10^{-11}	3.5 10^{-11}	0.010	3.3 10^{-11}
Sr-89	50.5 d	F	0.300	1.0 10^{-9}	1.4 10^{-9}	0.300	2.6 10^{-9}
		S	0.010	7.5 10^{-9}	5.6 10^{-9}	0.010	2.3 10^{-9}
Sr-90	29.1 a	F	0.300	2.4 10^{-8}	3.0 10^{-8}	0.300	2.8 10^{-8}
		S	0.010	1.5 10^{-7}	7.7 10^{-8}	0.010	2.7 10^{-9}
Sr-91	9.50 h	F	0.300	1.7 10^{-10}	2.9 10^{-10}	0.300	6.5 10^{-10}
		S	0.010	4.1 10^{-10}	5.7 10^{-10}	0.010	7.6 10^{-10}
Sr-92	2.71 h	F	0.300	1.1 10^{-10}	1.8 10^{-10}	0.300	4.3 10^{-10}
		S	0.010	2.3 10^{-10}	3.4 10^{-10}	0.010	4.9 10^{-10}
Yttrium							
Y-86	14.7 h	M	1.0 10^{-4}	4.8 10^{-10}	8.0 10^{-10}	1.0 10^{-4}	9.6 10^{-10}
		S	1.0 10^{-4}	4.9 10^{-10}	8.1 10^{-10}		
Y-86m	0.800 h	M	1.0 10^{-4}	2.9 10^{-11}	4.8 10^{-11}	1.0 10^{-4}	5.6 10^{-11}
		S	1.0 10^{-4}	3.0 10^{-11}	4.9 10^{-11}		
Y-87	3.35 d	M	1.0 10^{-4}	3.8 10^{-10}	5.2 10^{-10}	1.0 10^{-4}	5.5 10^{-10}
		S	1.0 10^{-4}	4.0 10^{-10}	5.3 10^{-10}		
Y-88	107 d	M	1.0 10^{-4}	3.9 10^{-9}	3.3 10^{-9}	1.0 10^{-4}	1.3 10^{-9}
		S	1.0 10^{-4}	4.1 10^{-9}	3.0 10^{-9}		
Y-90	2.67 d	M	1.0 10^{-4}	1.4 10^{-9}	1.6 10^{-9}	1.0 10^{-4}	2.7 10^{-9}
		S	1.0 10^{-4}	1.5 10^{-9}	1.7 10^{-9}		
Y-90m	3.19 h	M	1.0 10^{-4}	9.6 10^{-11}	1.3 10^{-10}	1.0 10^{-4}	1.7 10^{-10}
		S	1.0 10^{-4}	1.0 10^{-10}	1.3 10^{-10}		
Y-91	58.5 d	M	1.0 10^{-4}	6.7 10^{-9}	5.2 10^{-9}	1.0 10^{-4}	2.4 10^{-9}
		S	1.0 10^{-4}	8.4 10^{-9}	6.1 10^{-9}		
Y-91m	0.828 h	M	1.0 10^{-4}	1.0 10^{-11}	1.4 10^{-11}	1.0 10^{-4}	1.1 10^{-11}
		S	1.0 10^{-4}	1.1 10^{-11}	1.5 10^{-11}		
Y-92	3.54 h	M	1.0 10^{-4}	1.9 10^{-10}	2.7 10^{-10}	1.0 10^{-4}	4.9 10^{-10}
		S	1.0 10^{-4}	2.0 10^{-10}	2.8 10^{-10}		

TABLE C1 (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested or inhaled radionuclides for exposed workers.

Nuclide	Physical half-life	Inhalation				Ingestion	
		Lung absorption type	f_1	$h(g)_{1\,\mu m}$	$h(g)_{5\,\mu m}$	f_1	$h(g)$
Y-93	10.1 h	M	1.0 10^{-4}	4.1 10^{-10}	5.7 10^{-10}	1.0 10^{-4}	1.2 10^{-9}
		S	1.0 10^{-4}	4.3 10^{-10}	6.0 10^{-10}		
Y-94	0.318 h	M	1.0 10^{-4}	2.8 10^{-11}	4.4 10^{-11}	1.0 10^{-4}	8.1 10^{-11}
		S	1.0 10^{-4}	2.9 10^{-11}	4.6 10^{-11}		
Y-95	0.178 h	M	1.0 10^{-4}	1.6 10^{-11}	2.5 10^{-11}	1.0 10^{-4}	4.6 10^{-11}
		S	1.0 10^{-4}	1.7 10^{-11}	2.6 10^{-11}		
Zirconium							
Zr-86	16.5 h	F	0.002	3.0 10^{-10}	5.2 10^{-10}	0.002	8.6 10^{-10}
		M	0.002	4.3 10^{-10}	6.8 10^{-10}		
		S	0.002	4.5 10^{-10}	7.0 10^{-10}		
Zr-88	83.4 d	F	0.002	3.5 10^{-9}	4.1 10^{-9}	0.002	3.3 10^{-10}
		M	0.002	2.5 10^{-9}	1.7 10^{-9}		
		S	0.002	3.3 10^{-9}	1.8 10^{-9}		
Zr-89	3.27 d	F	0.002	3.1 10^{-10}	5.2 10^{-10}	0.002	7.9 10^{-10}
		M	0.002	5.3 10^{-10}	7.2 10^{-10}		
		S	0.002	5.5 10^{-10}	7.5 10^{-10}		
Zr-93	1.53 10^{6} a	F	0.002	2.5 10^{-8}	2.9 10^{-8}	0.002	2.8 10^{-10}
		M	0.002	9.6 10^{-9}	6.6 10^{-9}		
		S	0.002	3.1 10^{-9}	1.7 10^{-9}		
Zr-95	64.0 d	F	0.002	2.5 10^{-9}	3.0 10^{-9}	0.002	8.8 10^{-10}
		M	0.002	4.5 10^{-9}	3.6 10^{-9}		
		S	0.002	5.5 10^{-9}	4.2 10^{-9}		
Zr-97	16.9 h	F	0.002	4.2 10^{-10}	7.4 10^{-10}	0.002	2.1 10^{-9}
		M	0.002	9.4 10^{-10}	1.3 10^{-9}		
		S	0.002	1.0 10^{-9}	1.4 10^{-9}		
Niobium							
Nb-88	0.238 h	M	0.010	2.9 10^{-11}	4.8 10^{-11}	0.010	6.3 10^{-11}
		S	0.010	3.0 10^{-11}	5.0 10^{-11}		
Nb-89	2.03 h	M	0.010	1.2 10^{-10}	1.8 10^{-10}	0.010	3.0 10^{-10}
		S	0.010	1.3 10^{-10}	1.9 10^{-10}		
Nb-89	1.10 h	M	0.010	7.1 10^{-11}	1.1 10^{-10}	0.010	1.4 10^{-10}
		S	0.010	7.4 10^{-11}	1.2 10^{-10}		
Nb-90	14.6 h	M	0.010	6.6 10^{-10}	1.0 10^{-9}	0.010	1.2 10^{-9}
		S	0.010	6.9 10^{-10}	1.1 10^{-9}		
Nb-93m	13.6 a	M	0.010	4.6 10^{-10}	2.9 10^{-10}	0.010	1.2 10^{-10}
		S	0.010	1.6 10^{-9}	8.6 10^{-10}		
Nb-94	2.03 10^{4} a	M	0.010	1.0 10^{-8}	7.2 10^{-9}	0.010	1.7 10^{-9}
		S	0.010	4.5 10^{-8}	2.5 10^{-8}		
Nb-95	35.1 d	M	0.010	1.4 10^{-9}	1.3 10^{-9}	0.010	5.8 10^{-10}
		S	0.010	1.6 10^{-9}	1.3 10^{-9}		
Nb-95m	3.61 d	M	0.010	7.6 10^{-10}	7.7 10^{-10}	0.010	5.6 10^{-10}
		S	0.010	8.5 10^{-10}	8.5 10^{-10}		
Nb-96	23.3 h	M	0.010	6.5 10^{-10}	9.7 10^{-10}	0.010	1.1 10^{-9}
		S	0.010	6.8 10^{-9}	1.0 10^{-10}		
Nb-97	1.20 h	M	0.010	4.4 10^{-11}	6.9 10^{-11}	0.010	6.8 10^{-11}
		S	0.010	4.7 10^{-11}	7.2 10^{-11}		
Nb-98	0.858 h	M	0.010	5.9 10^{-11}	9.6 10^{-11}	0.010	1.1 10^{-10}
		S	0.010	6.1 10^{-11}	9.9 10^{-11}		
Molybdenum							
Mo-90	5.67 h	F	0.800	1.7 10^{-10}	2.9 10^{-10}	0.800	3.1 10^{-10}
		S	0.050	3.7 10^{-10}	5.6 10^{-10}	0.050	6.2 10^{-10}
Mo-93	3.50 10^{3} a	F	0.800	1.0 10^{-9}	1.4 10^{-9}	0.800	2.6 10^{-9}
		S	0.050	2.2 10^{-9}	1.2 10^{-9}	0.050	2.0 10^{-10}
Mo-93m	6.85 h	F	0.800	1.0 10^{-10}	1.9 10^{-10}	0.800	1.6 10^{-10}
		S	0.050	1.8 10^{-10}	3.0 10^{-10}	0.050	2.8 10^{-10}
Mo-99	2.75 d	F	0.800	2.3 10^{-10}	3.6 10^{-10}	0.800	7.4 10^{-10}
		S	0.050	9.7 10^{-10}	1.1 10^{-9}	0.050	1.2 10^{-9}
Mo-101	0.244 h	F	0.800	1.5 10^{-11}	2.7 10^{-11}	0.800	4.2 10^{-11}
		S	0.050	2.7 10^{-11}	4.5 10^{-11}	0.050	4.2 10^{-11}
Technetium							
Tc-93	2.75 h	F	0.800	3.4 10^{-11}	6.2 10^{-11}	0.800	4.9 10^{-11}
		M	0.800	3.6 10^{-11}	6.5 10^{-11}		
Tc-93m	0.725 h	F	0.800	1.5 10^{-11}	2.6 10^{-11}	0.800	2.4 10^{-11}
		M	0.800	1.7 10^{-11}	3.1 10^{-11}		

TABLE C1 (continues)

Values of dose conversion factors *h(g)* ($Sv{\cdot}Bq^{-1}$) for ingested or inhaled radionuclides for exposed workers.

Nuclide	Physical half-life	Inhalation				Ingestion	
		Lung absorption type	f_1	$h(g)_{1\,\mu m}$	$h(g)_{5\,\mu m}$	f_1	$h(g)$
Tc-94	4.88 h	F	0.800	$1.2\ 10^{-10}$	$2.1\ 10^{-10}$	0.800	$1.8\ 10^{-10}$
		M	0.800	$1.3\ 10^{-10}$	$2.2\ 10^{-10}$		
Tc-94m	0.867 h	F	0.800	$4.3\ 10^{-11}$	$6.9\ 10^{-11}$	0.800	$1.1\ 10^{-10}$
		M	0.800	$4.9\ 10^{-11}$	$8.0\ 10^{-11}$		
Tc-95	20.0 h	F	0.800	$1.0\ 10^{-10}$	$1.8\ 10^{-10}$	0.800	$1.6\ 10^{-10}$
		M	0.800	$1.0\ 10^{-10}$	$1.8\ 10^{-10}$		
Tc-95m	61.0 d	F	0.800	$3.1\ 10^{-10}$	$4.8\ 10^{-10}$	0.800	$6.2\ 10^{-10}$
		M	0.800	$8.7\ 10^{-10}$	$8.6\ 10^{-10}$		
Tc-96	4.28 d	F	0.800	$6.0\ 10^{-10}$	$9.8\ 10^{-10}$	0.800	$1.1\ 10^{-9}$
		M	0.800	$7.1\ 10^{-10}$	$1.0\ 10^{-9}$		
Tc-96m	0.858 h	F	0.800	$6.5\ 10^{-12}$	$1.1\ 10^{-11}$	0.800	$1.3\ 10^{-11}$
		M	0.800	$7.7\ 10^{-12}$	$1.1\ 10^{-11}$		
Tc-97	$2.60\ 10^{6}$ a	F	0.800	$4.5\ 10^{-11}$	$7.2\ 10^{-11}$	0.800	$8.3\ 10^{-11}$
		M	0.800	$2.1\ 10^{-10}$	$1.6\ 10^{-10}$		
Tc-97m	87.0 d	F	0.800	$2.8\ 10^{-10}$	$4.0\ 10^{-10}$	0.800	$6.6\ 10^{-10}$
		M	0.800	$3.1\ 10^{-9}$	$2.7\ 10^{-9}$		
Tc-98	$4.20\ 10^{6}$ a	F	0.800	$1.0\ 10^{-9}$	$1.5\ 10^{-9}$	0.800	$2.3\ 10^{-9}$
		M	0.800	$8.1\ 10^{-9}$	$6.1\ 10^{-9}$		
Tc-99	$2.13\ 10^{5}$ a	F	0.800	$2.9\ 10^{-10}$	$4.0\ 10^{-10}$	0.800	$7.8\ 10^{-10}$
		M	0.800	$3.9\ 10^{-9}$	$3.2\ 10^{-9}$		
Tc-99m	6.02 h	F	0.800	$1.2\ 10^{-11}$	$2.0\ 10^{-11}$	0.800	$2.2\ 10^{-11}$
		M	0.800	$1.9\ 10^{-11}$	$2.9\ 10^{-11}$		
Tc-101	0.237 h	F	0.800	$8.7\ 10^{-12}$	$1.5\ 10^{-11}$	0.800	$1.9\ 10^{-11}$
		M	0.800	$1.3\ 10^{-11}$	$2.1\ 10^{-11}$		
Tc-104	0.303 h	F	0.800	$2.4\ 10^{-11}$	$3.9\ 10^{-11}$	0.800	$8.1\ 10^{-11}$
		M	0.800	$3.0\ 10^{-11}$	$4.8\ 10^{-11}$		
Ruthenium							
Ru-94	0.863 h	F	0.050	$2.7\ 10^{-11}$	$4.9\ 10^{-11}$	0.050	$9.4\ 10^{-11}$
		M	0.050	$4.4\ 10^{-11}$	$7.2\ 10^{-11}$		
		S	0.050	$4.6\ 10^{-11}$	$7.4\ 10^{-11}$		
Ru-97	2.90 d	F	0.050	$6.7\ 10^{-11}$	$1.2\ 10^{-10}$	0.050	$1.5\ 10^{-10}$
		M	0.050	$1.1\ 10^{-10}$	$1.6\ 10^{-10}$		
		S	0.050	$1.1\ 10^{-10}$	$1.6\ 10^{-10}$		
Ru-103	39.3 d	F	0.050	$4.9\ 10^{-10}$	$6.8\ 10^{-10}$	0.050	$7.3\ 10^{-10}$
		M	0.050	$2.3\ 10^{-9}$	$1.9\ 10^{-9}$		
		S	0.050	$2.8\ 10^{-9}$	$2.2\ 10^{-9}$		
Ru-105	4.44 h	F	0.050	$7.1\ 10^{-11}$	$1.3\ 10^{-10}$	0.050	$2.6\ 10^{-10}$
		M	0.050	$1.7\ 10^{-10}$	$2.4\ 10^{-10}$		
		S	0.050	$1.8\ 10^{-10}$	$2.5\ 10^{-10}$		
Ru-106	1.01 a	F	0.050	$8.0\ 10^{-9}$	$9.8\ 10^{-9}$	0.050	$7.0\ 10^{-9}$
		M	0.050	$2.6\ 10^{-8}$	$1.7\ 10^{-8}$		
		S	0.050	$6.2\ 10^{-8}$	$3.5\ 10^{-8}$		
Rhodium							
Rh-99	16.0 d	F	0.050	$3.3\ 10^{-10}$	$4.9\ 10^{-10}$	0.050	$5.1\ 10^{-10}$
		M	0.050	$7.3\ 10^{-10}$	$8.2\ 10^{-10}$		
		S	0.050	$8.3\ 10^{-10}$	$8.9\ 10^{-10}$		
Rh-99m	4.70 h	F	0.050	$3.0\ 10^{-11}$	$5.7\ 10^{-11}$	0.050	$6.6\ 10^{-11}$
		M	0.050	$4.1\ 10^{-11}$	$7.2\ 10^{-11}$		
		S	0.050	$4.3\ 10^{-11}$	$7.3\ 10^{-11}$		
Rh-100	20.8 h	F	0.050	$2.8\ 10^{-10}$	$5.1\ 10^{-10}$	0.050	$7.1\ 10^{-10}$
		M	0.050	$3.6\ 10^{-10}$	$6.2\ 10^{-10}$		
		S	0.050	$3.7\ 10^{-10}$	$6.3\ 10^{-10}$		
Rh-101	3.20 a	F	0.050	$1.4\ 10^{-9}$	$1.7\ 10^{-9}$	0.050	$5.5\ 10^{-10}$
		M	0.050	$2.2\ 10^{-9}$	$1.7\ 10^{-9}$		
		S	0.050	$5.0\ 10^{-9}$	$3.1\ 10^{-9}$		
Rh-101m	4.34 d	F	0.050	$1.0\ 10^{-10}$	$1.7\ 10^{-10}$	0.050	$2.2\ 10^{-10}$
		M	0.050	$2.0\ 10^{-10}$	$2.5\ 10^{-10}$		
		S	0.050	$2.1\ 10^{-10}$	$2.7\ 10^{-10}$		
Rh-102	2.90 a	F	0.050	$7.3\ 10^{-9}$	$8.9\ 10^{-9}$	0.050	$2.6\ 10^{-9}$
		M	0.050	$6.5\ 10^{-9}$	$5.0\ 10^{-9}$		
		S	0.050	$1.6\ 10^{-8}$	$9.0\ 10^{-9}$		
Rh-102m	207 d	F	0.050	$1.5\ 10^{-9}$	$1.9\ 10^{-9}$	0.050	$1.2\ 10^{-9}$
		M	0.050	$3.8\ 10^{-9}$	$2.7\ 10^{-9}$		
		S	0.050	$6.7\ 10^{-9}$	$4.2\ 10^{-9}$		

TABLE C1 (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested or inhaled radionuclides for exposed workers.

Nuclide	Physical half-life	Inhalation				Ingestion	
		Lung absorption type	f_1	$h(g)_{1\,\mu m}$	$h(g)_{5\,\mu m}$	f_1	$h(g)$
Rh-103m	0.935 h	F	0.050	8.6 10^{-13}	1.2 10^{-12}	0.050	3.8 10^{-12}
		M	0.050	2.3 10^{-12}	2.4 10^{-12}		
		S	0.050	2.5 10^{-12}	2.5 10^{-12}		
Rh-105	1.47 d	F	0.050	8.7 10^{-11}	1.5 10^{-10}	0.050	3.7 10^{-10}
		M	0.050	3.1 10^{-10}	4.1 10^{-10}		
		S	0.050	3.4 10^{-10}	4.4 10^{-10}		
Rh-106m	2.20 h	F	0.050	7.0 10^{-11}	1.3 10^{-10}	0.050	1.6 10^{-10}
		M	0.050	1.1 10^{-10}	1.8 10^{-10}		
		S	0.050	1.2 10^{-10}	1.9 10^{-10}		
Rh-107	0.362 h	F	0.050	9.6 10^{-12}	1.6 10^{-11}	0.050	2.4 10^{-11}
		M	0.050	1.7 10^{-11}	2.7 10^{-11}		
		S	0.050	1.7 10^{-11}	2.8 10^{-11}		
Palladium							
Pd-100	3.63 d	F	0.005	4.9 10^{-10}	7.6 10^{-10}	0.005	9.4 10^{-10}
		M	0.005	7.9 10^{-10}	9.5 10^{-10}		
		S	0.005	8.3 10^{-10}	9.7 10^{-10}		
Pd-101	8.27 h	F	0.005	4.2 10^{-11}	7.5 10^{-11}	0.005	9.4 10^{-11}
		M	0.005	6.2 10^{-11}	9.8 10^{-11}		
		S	0.005	6.4 10^{-11}	1.0 10^{-10}		
Pd-103	17.0 d	F	0.005	9.0 10^{-11}	1.2 10^{-10}	0.005	1.9 10^{-10}
		M	0.005	3.5 10^{-10}	3.0 10^{-10}		
		S	0.005	4.0 10^{-10}	2.9 10^{-10}		
Pd-107	6.50 10^{6} a	F	0.005	2.6 10^{-11}	3.3 10^{-11}	0.005	3.7 10^{-11}
		M	0.005	8.0 10^{-11}	5.2 10^{-11}		
		S	0.005	5.5 10^{-10}	2.9 10^{-10}		
Pd-109	13.4 h	F	0.005	1.2 10^{-10}	2.1 10^{-10}	0.005	5.5 10^{-10}
		M	0.005	3.4 10^{-10}	4.7 10^{-10}		
		S	0.005	3.6 10^{-10}	5.0 10^{-10}		
Silver							
Ag-102	0.215 h	F	0.050	1.4 10^{-11}	2.4 10^{-11}	0.050	4.0 10^{-11}
		M	0.050	1.8 10^{-11}	3.2 10^{-11}		
		S	0.050	1.9 10^{-11}	3.2 10^{-11}		
Ag-103	1.09 h	F	0.050	1.6 10^{-11}	2.8 10^{-11}	0.050	4.3 10^{-11}
		M	0.050	2.7 10^{-11}	4.3 10^{-11}		
		S	0.050	2.8 10^{-11}	4.5 10^{-11}		
Ag-104	1.15 h	F	0.050	3.0 10^{-11}	5.7 10^{-11}	0.050	6.0 10^{-11}
		M	0.050	3.9 10^{-11}	6.9 10^{-11}		
		S	0.050	4.0 10^{-11}	7.1 10^{-11}		
Ag-104m	0.558 h	F	0.050	1.7 10^{-11}	3.1 10^{-11}	0.050	5.4 10^{-11}
		M	0.050	2.6 10^{-11}	4.4 10^{-11}		
		S	0.050	2.7 10^{-11}	4.5 10^{-11}		
Ag-105	41.0 d	F	0.050	5.4 10^{-10}	8.0 10^{-10}	0.050	4.7 10^{-10}
		M	0.050	6.9 10^{-10}	7.0 10^{-10}		
		S	0.050	7.8 10^{-10}	7.3 10^{-10}		
Ag-106	0.399 h	F	0.050	9.8 10^{-12}	1.7 10^{-11}	0.050	3.2 10^{-11}
		M	0.050	1.6 10^{-11}	2.6 10^{-11}		
		S	0.050	1.6 10^{-11}	2.7 10^{-11}		
Ag-106m	8.41 d	F	0.050	1.1 10^{-9}	1.6 10^{-9}	0.050	1.5 10^{-9}
		M	0.050	1.1 10^{-9}	1.5 10^{-9}		
		S	0.050	1.1 10^{-9}	1.4 10^{-9}		
Ag-108m	1.27 10^{2} a	F	0.050	6.1 10^{-9}	7.3 10^{-9}	0.050	2.3 10^{-9}
		M	0.050	7.0 10^{-9}	5.2 10^{-9}		
		S	0.050	3.5 10^{-8}	1.9 10^{-8}		
Ag-110m	250 d	F	0.050	5.5 10^{-9}	6.7 10^{-9}	0.050	2.8 10^{-9}
		M	0.050	7.2 10^{-9}	5.9 10^{-9}		
		S	0.050	1.2 10^{-8}	7.3 10^{-9}		
Ag-111	7.45 d	F	0.050	4.1 10^{-10}	5.7 10^{-10}	0.050	1.3 10^{-9}
		M	0.050	1.5 10^{-9}	1.5 10^{-9}		
		S	0.050	1.7 10^{-9}	1.6 10^{-9}		
Ag-112	3.12 h	F	0.050	8.2 10^{-11}	1.4 10^{-10}	0.050	4.3 10^{-10}
		M	0.050	1.7 10^{-10}	2.5 10^{-10}		
		S	0.050	1.8 10^{-10}	2.6 10^{-10}		
Ag-115	0.333 h	F	0.050	1.6 10^{-11}	2.6 10^{-11}	0.050	6.0 10^{-11}
		M	0.050	2.8 10^{-11}	4.3 10^{-11}		
		S	0.050	3.0 10^{-11}	4.4 10^{-11}		

TABLE C1 (continues)
Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested or inhaled radionuclides for exposed workers.

Nuclide	Physical half-life	Inhalation				Ingestion	
		Lung absorption type	f_1	$h(g)_{1\ \mu m}$	$h(g)_{5\ \mu m}$	f_1	$h(g)$
Cadmium							
Cd-104	0.961 h	F	0.050	2.7 10^{-11}	5.0 10^{-11}	0.050	5.8 10^{-11}
		M	0.050	3.6 10^{-11}	6.2 10^{-11}		
		S	0.050	3.7 10^{-11}	6.3 10^{-11}		
Cd-107	6.49 h	F	0.050	2.3 10^{-11}	4.2 10^{-11}	0.050	6.2 10^{-11}
		M	0.050	8.1 10^{-11}	1.0 10^{-10}		
		S	0.050	8.7 10^{-11}	1.1 10^{-10}		
Cd-109	1.27 a	F	0.050	8.1 10^{-9}	9.6 10^{-9}	0.050	2.0 10^{-9}
		M	0.050	6.2 10^{-9}	5.1 10^{-9}		
		S	0.050	5.8 10^{-9}	4.4 10^{-9}		
Cd-113	9.30 10^{15} a	F	0.050	1.2 10^{-7}	1.4 10^{-7}	0.050	2.5 10^{-8}
		M	0.050	5.3 10^{-8}	4.3 10^{-8}		
		S	0.050	2.5 10^{-8}	2.1 10^{-8}		
Cd-113m	13.6 a	F	0.050	1.1 10^{-7}	1.3 10^{-7}	0.050	2.3 10^{-8}
		M	0.050	5.0 10^{-8}	4.0 10^{-8}		
		S	0.050	3.0 10^{-8}	2.4 10^{-8}		
Cd-115	2.23 d	F	0.050	3.7 10^{-10}	5.4 10^{-10}	0.050	1.4 10^{-9}
		M	0.050	9.7 10^{-10}	1.2 10^{-9}		
		S	0.050	1.1 10^{-9}	1.3 10^{-9}		
Cd-115m	44.6 d	F	0.050	5.3 10^{-9}	6.4 10^{-9}	0.050	3.3 10^{-9}
		M	0.050	5.9 10^{-9}	5.5 10^{-9}		
		S	0.050	7.3 10^{-9}	5.5 10^{-9}		
Cd-117	2.49 h	F	0.050	7.3 10^{-11}	1.3 10^{-10}	0.050	2.8 10^{-10}
		M	0.050	1.6 10^{-10}	2.4 10^{-10}		
		S	0.050	1.7 10^{-10}	2.5 10^{-10}		
Cd-117m	3.36 h	F	0.050	1.0 10^{-10}	1.9 10^{-10}	0.050	2.8 10^{-10}
		M	0.050	2.0 10^{-10}	3.1 10^{-10}		
		S	0.050	2.1 10^{-10}	3.2 10^{-10}		
Indium							
In-109	4.20 h	F	0.020	3.2 10^{-11}	5.7 10^{-11}	0.020	6.6 10^{-11}
		M	0.020	4.4 10^{-11}	7.3 10^{-11}		
In-110	4.90 h	F	0.020	1.2 10^{-10}	2.2 10^{-10}	0.020	2.4 10^{-10}
		M	0.020	1.4 10^{-10}	2.5 10^{-10}		
In-110	1.15 h	F	0.020	3.1 10^{-11}	5.5 10^{-11}	0.020	1.0 10^{-10}
		M	0.020	5.0 10^{-11}	8.1 10^{-11}		
In-111	2.83 d	F	0.020	1.3 10^{-10}	2.2 10^{-10}	0.020	2.9 10^{-10}
		M	0.020	2.3 10^{-10}	3.1 10^{-10}		
In-112	0.240 h	F	0.020	5.0 10^{-12}	8.6 10^{-12}	0.020	1.0 10^{-11}
		M	0.020	7.8 10^{-12}	1.3 10^{-11}		
In-113m	1.66 h	F	0.020	1.0 10^{-11}	1.9 10^{-11}	0.020	2.8 10^{-11}
		M	0.020	2.0 10^{-11}	3.2 10^{-11}		
In-114m	49.5 d	F	0.020	9.3 10^{-9}	1.1 10^{-8}	0.020	4.1 10^{-9}
		M	0.020	5.9 10^{-9}	5.9 10^{-9}		
In-115	5.10 10^{15} a	F	0.020	3.9 10^{-7}	4.5 10^{-7}	0.020	3.2 10^{-8}
		M	0.020	1.5 10^{-7}	1.1 10^{-7}		
In-115m	4.49 h	F	0.020	2.5 10^{-11}	4.5 10^{-11}	0.020	8.6 10^{-11}
		M	0.020	6.0 10^{-11}	8.7 10^{-11}		
In-116m	0.902 h	F	0.020	3.0 10^{-11}	5.5 10^{-11}	0.020	6.4 10^{-11}
		M	0.020	4.8 10^{-11}	8.0 10^{-11}		
In-117	0.730 h	F	0.020	1.6 10^{-11}	2.8 10^{-11}	0.020	3.1 10^{-11}
		M	0.020	3.0 10^{-11}	4.8 10^{-11}		
In-117m	1.94 h	F	0.020	3.1 10^{-11}	5.5 10^{-11}	0.020	1.2 10^{-10}
		M	0.020	7.3 10^{-11}	1.1 10^{-10}		
In-119m	0.300 h	F	0.020	1.1 10^{-11}	1.8 10^{-11}	0.020	4.7 10^{-11}
		M	0.020	1.8 10^{-11}	2.9 10^{-11}		
Tin							
Sn-110	4.00 h	F	0.020	1.1 10^{-10}	1.9 10^{-10}	0.020	3.5 10^{-10}
		M	0.020	1.6 10^{-10}	2.6 10^{-10}		
Sn-111	0.588 h	F	0.020	8.3 10^{-12}	1.5 10^{-11}	0.020	2.3 10^{-11}
		M	0.020	1.4 10^{-11}	2.2 10^{-11}		
Sn-113	115 d	F	0.020	5.4 10^{-10}	7.9 10^{-10}	0.020	7.3 10^{-10}
		M	0.020	2.5 10^{-9}	1.9 10^{-9}		
Sn-117m	13.6 d	F	0.020	2.9 10^{-10}	3.9 10^{-10}	0.020	7.1 10^{-10}
		M	0.020	2.3 10^{-9}	2.2 10^{-9}		
Sn-119m	293 d	F	0.020	2.9 10^{-10}	3.6 10^{-10}	0.020	3.4 10^{-10}
		M	0.020	2.0 10^{-9}	1.5 10^{-9}		

TABLE C1 (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested or inhaled radionuclides for exposed workers.

Nuclide	Physical half-life	Inhalation				Ingestion	
		Lung absorption type	f_1	$h(g)_{1\ \mu m}$	$h(g)_{5\ \mu m}$	f_1	$h(g)$
Sn-121	1.13 d	F	0.020	6.4 10^{-11}	1.0 10^{-10}	0.020	2.3 10^{-10}
		M	0.020	2.2 10^{-10}	2.8 10^{-10}		
Sn-121m	55.0 a	F	0.020	8.0 10^{-10}	9.7 10^{-10}	0.020	3.8 10^{-10}
		M	0.020	4.2 10^{-9}	3.3 10^{-9}		
Sn-123	129 d	F	0.020	1.2 10^{-9}	1.6 10^{-9}	0.020	2.1 10^{-9}
		M	0.020	7.7 10^{-9}	5.6 10^{-9}		
Sn-123m	0.668 h	F	0.020	1.4 10^{-11}	2.4 10^{-11}	0.020	3.8 10^{-11}
		M	0.020	2.8 10^{-11}	4.4 10^{-11}		
Sn-125	9.64 d	F	0.020	9.2 10^{-10}	1.3 10^{-9}	0.020	3.1 10^{-9}
		M	0.020	3.0 10^{-9}	2.8 10^{-9}		
Sn-126	1.00 10^{5} a	F	0.020	1.1 10^{-8}	1.4 10^{-8}	0.020	4.7 10^{-9}
		M	0.020	2.7 10^{-8}	1.8 10^{-8}		
Sn-127	2.10 h	F	0.020	6.9 10^{-11}	1.2 10^{-10}	0.020	2.0 10^{-10}
		M	0.020	1.3 10^{-10}	2.0 10^{-10}		
Sn-128	0.985 h	F	0.020	5.4 10^{-11}	9.5 10^{-11}	0.020	1.5 10^{-10}
		M	0.020	9.6 10^{-11}	1.5 10^{-10}		
Antimony							
Sb-115	0.530 h	F	0.100	9.2 10^{-12}	1.7 10^{-11}	0.100	2.4 10^{-11}
		M	0.010	1.4 10^{-11}	2.3 10^{-11}		
Sb-116	0.263 h	F	0.100	9.9 10^{-12}	1.8 10^{-11}	0.100	2.6 10^{-11}
		M	0.010	1.4 10^{-11}	2.3 10^{-11}		
Sb-116m	1.00 h	F	0.100	3.5 10^{-11}	6.4 10^{-11}	0.100	6.7 10^{-11}
		M	0.010	5.0 10^{-11}	8.5 10^{-11}		
Sb-117	2.80 h	F	0.100	9.3 10^{-12}	1.7 10^{-11}	0.100	1.8 10^{-11}
		M	0.010	1.7 10^{-11}	2.7 10^{-11}		
Sb-118m	5.00 h	F	0.100	1.0 10^{-10}	1.9 10^{-10}	0.100	2.1 10^{-10}
		M	0.010	1.3 10^{-10}	2.3 10^{-10}		
Sb-119	1.59 d	F	0.100	2.5 10^{-11}	4.5 10^{-11}	0.100	8.1 10^{-11}
		M	0.010	3.7 10^{-11}	5.9 10^{-11}		
Sb-120	5.76 d	F	0.100	5.9 10^{-10}	9.8 10^{-10}	0.100	1.2 10^{-9}
		M	0.010	1.0 10^{-9}	1.3 10^{-9}		
Sb-120	0.265 h	F	0.100	4.9 10^{-12}	8.5 10^{-12}	0.100	1.4 10^{-11}
		M	0.010	7.4 10^{-12}	1.2 10^{-11}		
Sb-122	2.70 d	F	0.100	3.9 10^{-10}	6.3 10^{-10}	0.100	1.7 10^{-9}
		M	0.010	1.0 10^{-9}	1.2 10^{-9}		
Sb-124	60.2 d	F	0.100	1.3 10^{-9}	1.9 10^{-9}	0.100	2.5 10^{-9}
		M	0.010	6.1 10^{-9}	4.7 10^{-9}		
Sb-124m	0.337 h	F	0.100	3.0 10^{-12}	5.3 10^{-12}	0.100	8.0 10^{-12}
		M	0.010	5.5 10^{-12}	8.3 10^{-12}		
Sb-125	2.77 a	F	0.100	1.4 10^{-9}	1.7 10^{-9}	0.100	1.1 10^{-9}
		M	0.010	4.5 10^{-9}	3.3 10^{-9}		
Sb-126	12.4 d	F	0.100	1.1 10^{-9}	1.7 10^{-9}	0.100	2.4 10^{-9}
		M	0.010	2.7 10^{-9}	3.2 10^{-9}		
Sb-126m	0.317 h	F	0.100	1.3 10^{-11}	2.3 10^{-11}	0.100	3.6 10^{-11}
		M	0.010	2.0 10^{-11}	3.3 10^{-11}		
Sb-127	3.85 d	F	0.100	4.6 10^{-10}	7.4 10^{-10}	0.100	1.7 10^{-9}
		M	0.010	1.6 10^{-9}	1.7 10^{-9}		
Sb-128	9.01 h	F	0.100	2.5 10^{-10}	4.6 10^{-10}	0.100	7.6 10^{-10}
		M	0.010	4.2 10^{-10}	6.7 10^{-10}		
Sb-128	0.173 h	F	0.100	1.1 10^{-11}	1.9 10^{-11}	0.100	3.3 10^{-11}
		M	0.010	1.5 10^{-11}	2.6 10^{-11}		
Sb-129	4.32 h	F	0.100	1.1 10^{-10}	2.0 10^{-10}	0.100	4.2 10^{-10}
		M	0.010	2.4 10^{-10}	3.5 10^{-10}		
Sb-130	0.667 h	F	0.100	3.5 10^{-11}	6.3 10^{-11}	0.100	9.1 10^{-11}
		M	0.010	5.4 10^{-11}	9.1 10^{-11}		
Sb-131	0.383 h	F	0.100	3.7 10^{-11}	5.9 10^{-11}	0.100	1.0 10^{-10}
		M	0.010	5.2 10^{-11}	8.3 10^{-11}		
Tellurium							
Te-116	2.49 h	F	0.300	6.3 10^{-11}	1.2 10^{-10}	0.300	1.7 10^{-10}
		M	0.300	1.1 10^{-10}	1.7 10^{-10}		
Te-121	17.0 d	F	0.300	2.5 10^{-10}	3.9 10^{-10}	0.300	4.3 10^{-10}
		M	0.300	3.9 10^{-10}	4.4 10^{-10}		
Te-121m	154 d	F	0.300	1.8 10^{-9}	2.3 10^{-9}	0.300	2.3 10^{-9}
		M	0.300	4.2 10^{-9}	3.6 10^{-9}		
Te-123	1.00 10^{13} a	F	0.300	4.0 10^{-9}	5.0 10^{-9}	0.300	4.4 10^{-9}
		M	0.300	2.6 10^{-9}	2.8 10^{-9}		

TABLE C1 (continues)
Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested or inhaled radionuclides for exposed workers.

Nuclide	Physical half-life	Inhalation				Ingestion	
		Lung absorption type	f_1	$h(g)_{1\ \mu m}$	$h(g)_{5\ \mu m}$	f_1	$h(g)$
Te-123m	120 d	F	0.300	9.7 10^{-10}	1.2 10^{-9}	0.300	1.4 10^{-9}
		M	0.300	3.9 10^{-9}	3.4 10^{-9}		
Te-125m	58.0 d	F	0.300	5.1 10^{-10}	6.7 10^{-10}	0.300	8.7 10^{-10}
		M	0.300	3.3 10^{-9}	2.9 10^{-9}		
Te-127	9.35 h	F	0.300	4.2 10^{-11}	7.2 10^{-11}	0.300	1.7 10^{-10}
		M	0.300	1.2 10^{-10}	1.8 10^{-10}		
Te-127m	109 d	F	0.300	1.6 10^{-9}	2.0 10^{-9}	0.300	2.3 10^{-9}
		M	0.300	7.2 10^{-9}	6.2 10^{-9}		
Te-129	1.16 h	F	0.300	1.7 10^{-11}	2.9 10^{-11}	0.300	6.3 10^{-11}
		M	0.300	3.8 10^{-11}	5.7 10^{-11}		
Te-129m	33.6 d	F	0.300	1.3 10^{-9}	1.8 10^{-9}	0.300	3.0 10^{-9}
		M	0.300	6.3 10^{-9}	5.4 10^{-9}		
Te-131	0.417 h	F	0.300	2.3 10^{-11}	4.6 10^{-11}	0.300	8.7 10^{-11}
		M	0.300	3.8 10^{-11}	6.1 10^{-11}		
Te-131m	1.25 d	F	0.300	8.7 10^{-10}	1.2 10^{-9}	0.300	1.9 10^{-9}
		M	0.300	1.1 10^{-9}	1.6 10^{-9}		
Te-132	3.26 d	F	0.300	1.8 10^{-9}	2.4 10^{-9}	0.300	3.7 10^{-9}
		M	0.300	2.2 10^{-9}	3.0 10^{-9}		
Te-133	0.207 h	F	0.300	2.0 10^{-11}	3.8 10^{-11}	0.300	7.2 10^{-11}
		M	0.300	2.7 10^{-11}	4.4 10^{-11}		
Te-133m	0.923 h	F	0.300	8.4 10^{-11}	1.2 10^{-10}	0.300	2.8 10^{-10}
		M	0.300	1.2 10^{-10}	1.9 10^{-10}		
Te-134	0.696 h	F	0.300	5.0 10^{-11}	8.3 10^{-11}	0.300	1.1 10^{-10}
		M	0.300	7.1 10^{-11}	1.1 10^{-10}		
Iodine							
I-120	1.35 h	F	1.000	1.0 10^{-10}	1.9 10^{-10}	1.000	3.4 10^{-10}
I-120m	0.883 h	F	1.000	8.7 10^{-11}	1.4 10^{-10}	1.000	2.1 10^{-10}
I-121	2.12 h	F	1.000	2.8 10^{-11}	3.9 10^{-11}	1.000	8.2 10^{-11}
I-123	13.2 h	F	1.000	7.6 10^{-11}	1.1 10^{-10}	1.000	2.1 10^{-10}
I-124	4.18 d	F	1.000	4.5 10^{-9}	6.3 10^{-9}	1.000	1.3 10^{-8}
I-125	60.1 d	F	1.000	5.3 10^{-9}	7.3 10^{-9}	1.000	1.5 10^{-8}
I-126	13.0 d	F	1.000	1.0 10^{-8}	1.4 10^{-8}	1.000	2.9 10^{-8}
I-128	0.416 h	F	1.000	1.4 10^{-11}	2.2 10^{-11}	1.000	4.6 10^{-11}
I-129	1.57 10^{7} a	F	1.000	3.7 10^{-8}	5.1 10^{-8}	1.000	1.1 10^{-7}
I-130	12.4 h	F	1.000	6.9 10^{-10}	9.6 10^{-10}	1.000	2.0 10^{-9}
I-131	8.04 d	F	1.000	7.6 10^{-9}	1.1 10^{-8}	1.000	2.2 10^{-8}
I-132	2.30 h	F	1.000	9.6 10^{-11}	2.0 10^{-10}	1.000	2.9 10^{-10}
I-132m	1.39 h	F	1.000	8.1 10^{-11}	1.1 10^{-10}	1.000	2.2 10^{-10}
I-133	20.8 h	F	1.000	1.5 10^{-9}	2.1 10^{-9}	1.000	4.3 10^{-9}
I-134	0.876 h	F	1.000	4.8 10^{-11}	7.9 10^{-11}	1.000	1.1 10^{-10}
I-135	6.61 h	F	1.000	3.3 10^{-10}	4.6 10^{-10}	1.000	9.3 10^{-10}
Caesium							
Cs-125	0.750 h	F	1.000	1.3 10^{-11}	2.3 10^{-11}	1.000	3.5 10^{-11}
Cs-127	6.25 h	F	1.000	2.2 10^{-11}	4.0 10^{-11}	1.000	2.4 10^{-11}
Cs-129	1.34 d	F	1.000	4.5 10^{-11}	8.1 10^{-11}	1.000	6.0 10^{-11}
Cs-130	0.498 h	F	1.000	8.4 10^{-12}	1.5 10^{-11}	1.000	2.8 10^{-11}
Cs-131	9.69 d	F	1.000	2.8 10^{-11}	4.5 10^{-11}	1.000	5.8 10^{-11}
Cs-132	6.48 d	F	1.000	2.4 10^{-10}	3.8 10^{-10}	1.000	5.0 10^{-10}
Cs-134	2.06 a	F	1.000	6.8 10^{-9}	9.6 10^{-9}	1.000	1.9 10^{-8}
Cs-134m	2.90 h	F	1.000	1.5 10^{-11}	2.6 10^{-11}	1.000	2.0 10^{-11}
Cs-135	2.30 10^{6} a	F	1.000	7.1 10^{-10}	9.9 10^{-10}	1.000	2.0 10^{-9}
Cs-135m	0.883 h	F	1.000	1.3 10^{-11}	2.4 10^{-11}	1.000	1.9 10^{-11}
Cs-136	13.1 d	F	1.000	1.3 10^{-9}	1.9 10^{-9}	1.000	3.0 10^{-9}
Cs-137	30.0 a	F	1.000	4.8 10^{-9}	6.7 10^{-9}	1.000	1.3 10^{-8}
Cs-138	0.536 h	F	1.000	2.6 10^{-11}	4.6 10^{-11}	1.000	9.2 10^{-11}
Barium							
Ba-126	1.61 h	F	0.100	7.8 10^{-11}	1.2 10^{-10}	0.100	2.6 10^{-10}
Ba-128	2.43 h	F	0.100	8.0 10^{-10}	1.3 10^{-9}	0.100	2.7 10^{-9}
Ba-131	11.8 d	F	0.100	2.3 10^{-10}	3.5 10^{-10}	0.100	4.5 10^{-10}
Ba-131m	0.243 h	F	0.100	4.1 10^{-12}	6.4 10^{-12}	0.100	4.9 10^{-12}
Ba-133	10.7 a	F	0.100	1.5 10^{-9}	1.8 10^{-9}	0.100	1.0 10^{-9}
Ba-133m	1.62 d	F	0.100	1.9 10^{-10}	2.8 10^{-10}	0.100	5.5 10^{-10}
Ba-135m	1.20 d	F	0.100	1.5 10^{-10}	2.3 10^{-10}	0.100	4.5 10^{-10}
Ba-139	1.38 h	F	0.100	3.5 10^{-11}	5.5 10^{-11}	0.100	1.2 10^{-10}

TABLE C1 (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested or inhaled radionuclides for exposed workers.

Nuclide	Physical half-life	Inhalation				Ingestion	
		Lung absorption type	f_1	$h(g)_{1\,\mu m}$	$h(g)_{5\,\mu m}$	f_1	$h(g)$
Ba-140	12.7 d	F	0.100	1.0 10^{-9}	1.6 10^{-9}	0.100	2.5 10^{-9}
Ba-141	0.305 h	F	0.100	2.2 10^{-11}	3.5 10^{-11}	0.100	7.0 10^{-11}
Ba-142	0.177 h	F	0.100	1.6 10^{-11}	2.7 10^{-11}	0.100	3.5 10^{-11}
Lanthanum							
La-131	0.983 h	F	5.0 10^{-4}	1.4 10^{-11}	2.4 10^{-11}	5.0 10^{-4}	3.5 10^{-11}
		M	5.0 10^{-4}	2.3 10^{-11}	3.6 10^{-11}		
La-132	4.80 h	F	5.0 10^{-4}	1.1 10^{-10}	2.0 10^{-10}	5.0 10^{-4}	3.9 10^{-10}
		M	5.0 10^{-4}	1.7 10^{-10}	2.8 10^{-10}		
La-135	19.5 h	F	5.0 10^{-4}	1.1 10^{-11}	2.0 10^{-11}	5.0 10^{-4}	3.0 10^{-11}
		M	5.0 10^{-4}	1.5 10^{-11}	2.5 10^{-11}		
La-137	6.00 10^{4} a	F	5.0 10^{-4}	8.6 10^{-9}	1.0 10^{-8}	5.0 10^{-4}	8.1 10^{-11}
		M	5.0 10^{-4}	3.4 10^{-9}	2.3 10^{-9}		
La-138	1.35 10^{11} a	F	5.0 10^{-4}	1.5 10^{-7}	1.8 10^{-7}	5.0 10^{-4}	1.1 10^{-9}
		M	5.0 10^{-4}	6.1 10^{-8}	4.2 10^{-8}		
La-140	1.68 d	F	5.0 10^{-4}	6.0 10^{-10}	1.0 10^{-9}	5.0 10^{-4}	2.0 10^{-9}
		M	5.0 10^{-4}	1.1 10^{-9}	1.5 10^{-9}		
La-141	3.93 h	F	5.0 10^{-4}	6.7 10^{-11}	1.1 10^{-10}	5.0 10^{-4}	3.6 10^{-10}
		M	5.0 10^{-4}	1.5 10^{-10}	2.2 10^{-10}		
La-142	1.54 h	F	5.0 10^{-4}	5.6 10^{-11}	1.0 10^{-10}	5.0 10^{-4}	1.8 10^{-10}
		M	5.0 10^{-4}	9.3 10^{-11}	1.5 10^{-10}		
La-143	0.237 h	F	5.0 10^{-4}	1.2 10^{-11}	2.0 10^{-11}	5.0 10^{-4}	5.6 10^{-11}
		M	5.0 10^{-4}	2.2 10^{-11}	3.3 10^{-11}		
Cerium							
Ce-134	3.00 d	M	5.0 10^{-4}	1.3 10^{-9}	1.5 10^{-9}	5.0 10^{-4}	2.5 10^{-9}
		S	5.0 10^{-4}	1.3 10^{-9}	1.6 10^{-9}		
Ce-135	17.6 h	M	5.0 10^{-4}	4.9 10^{-10}	7.3 10^{-10}	5.0 10^{-4}	7.9 10^{-10}
		S	5.0 10^{-4}	5.1 10^{-10}	7.6 10^{-10}		
Ce-137	9.00 h	M	5.0 10^{-4}	1.0 10^{-11}	1.8 10^{-11}	5.0 10^{-4}	2.5 10^{-11}
		S	5.0 10^{-4}	1.1 10^{-11}	1.9 10^{-11}		
Ce-137m	1.43 d	M	5.0 10^{-4}	4.0 10^{-10}	5.5 10^{-10}	5.0 10^{-4}	5.4 10^{-10}
		S	5.0 10^{-4}	4.3 10^{-10}	5.9 10^{-10}		
Ce-139	138 d	M	5.0 10^{-4}	1.6 10^{-9}	1.3 10^{-9}	5.0 10^{-4}	2.6 10^{-10}
		S	5.0 10^{-4}	1.8 10^{-9}	1.4 10^{-9}		
Ce-141	32.5 d	M	5.0 10^{-4}	3.1 10^{-9}	2.7 10^{-9}	5.0 10^{-4}	7.1 10^{-10}
		S	5.0 10^{-4}	3.6 10^{-9}	3.1 10^{-9}		
Ce-143	1.38 d	M	5.0 10^{-4}	7.4 10^{-10}	9.5 10^{-10}	5.0 10^{-4}	1.1 10^{-9}
		S	5.0 10^{-4}	8.1 10^{-10}	1.0 10^{-9}		
Ce-144	284 d	M	5.0 10^{-4}	3.4 10^{-8}	2.3 10^{-8}	5.0 10^{-4}	5.2 10^{-9}
		S	5.0 10^{-4}	4.9 10^{-8}	2.9 10^{-8}		
Praseodymium							
Pr-136	0.218 h	M	5.0 10^{-4}	1.4 10^{-11}	2.4 10^{-11}	5.0 10^{-4}	3.3 10^{-11}
		S	5.0 10^{-4}	1.5 10^{-11}	2.5 10^{-11}		
Pr-137	1.28 h	M	5.0 10^{-4}	2.1 10^{-11}	3.4 10^{-11}	5.0 10^{-4}	4.0 10^{-11}
		S	5.0 10^{-4}	2.2 10^{-11}	3.5 10^{-11}		
Pr-138m	2.10 h	M	5.0 10^{-4}	7.6 10^{-11}	1.3 10^{-10}	5.0 10^{-4}	1.3 10^{-10}
		S	5.0 10^{-4}	7.9 10^{-11}	1.3 10^{-10}		
Pr-139	4.51 h	M	5.0 10^{-4}	1.9 10^{-11}	2.9 10^{-11}	5.0 10^{-4}	3.1 10^{-11}
		S	5.0 10^{-4}	2.0 10^{-11}	3.0 10^{-11}		
Pr-142	19.1 h	M	5.0 10^{-4}	5.3 10^{-10}	7.0 10^{-10}	5.0 10^{-4}	1.3 10^{-9}
		S	5.0 10^{-4}	5.6 10^{-10}	7.4 10^{-10}		
Pr-142m	0.243 h	M	5.0 10^{-4}	6.7 10^{-12}	8.9 10^{-12}	5.0 10^{-4}	1.7 10^{-11}
		S	5.0 10^{-4}	7.1 10^{-12}	9.4 10^{-12}		
Pr-143	13.6 d	M	5.0 10^{-4}	2.1 10^{-9}	1.9 10^{-9}	5.0 10^{-4}	1.2 10^{-9}
		S	5.0 10^{-4}	2.3 10^{-9}	2.2 10^{-9}		
Pr-144	0.288 h	M	5.0 10^{-4}	1.8 10^{-11}	2.9 10^{-11}	5.0 10^{-4}	5.0 10^{-11}
		S	5.0 10^{-4}	1.9 10^{-11}	3.0 10^{-11}		
Pr-145	5.98 h	M	5.0 10^{-4}	1.6 10^{-10}	2.5 10^{-10}	5.0 10^{-4}	3.9 10^{-10}
		S	5.0 10^{-4}	1.7 10^{-10}	2.6 10^{-10}		
Pr-147	0.227 h	M	5.0 10^{-4}	1.8 10^{-11}	2.9 10^{-11}	5.0 10^{-4}	3.3 10^{-11}
		S	5.0 10^{-4}	1.9 10^{-11}	3.0 10^{-11}		

TABLE C1 (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested or inhaled radionuclides for exposed workers.

Nuclide	Physical half-life	Inhalation				Ingestion	
		Lung absorption type	f_1	$h(g)_{1\,\mu m}$	$h(g)_{5\,\mu m}$	f_1	$h(g)$
Neodymium							
Nd-136	0.844 h	M	5.0 10^{-4}	5.3 10^{-11}	8.5 10^{-11}	5.0 10^{-4}	9.9 10^{-11}
		S	5.0 10^{-4}	5.6 10^{-11}	8.9 10^{-11}		
Nd-138	5.04 h	M	5.0 10^{-4}	2.4 10^{-10}	3.7 10^{-10}	5.0 10^{-4}	6.4 10^{-10}
		S	5.0 10^{-4}	2.6 10^{-10}	3.8 10^{-10}		
Nd-139	0.495 h	M	5.0 10^{-4}	1.0 10^{-11}	1.7 10^{-11}	5.0 10^{-4}	2.0 10^{-11}
		S	5.0 10^{-4}	1.1 10^{-11}	1.7 10^{-11}		
Nd-139m	5.50 h	M	5.0 10^{-4}	1.5 10^{-10}	2.5 10^{-10}	5.0 10^{-4}	2.5 10^{-10}
		S	5.0 10^{-4}	1.6 10^{-10}	2.5 10^{-10}		
Nd-141	2.49 h	M	5.0 10^{-4}	5.1 10^{-12}	8.5 10^{-12}	5.0 10^{-4}	8.3 10^{-12}
		S	5.0 10^{-4}	5.3 10^{-12}	8.8 10^{-12}		
Nd-147	11.0 d	M	5.0 10^{-4}	2.0 10^{-9}	1.9 10^{-9}	5.0 10^{-4}	1.1 10^{-9}
		S	5.0 10^{-4}	2.3 10^{-9}	2.1 10^{-9}		
Nd-149	1.73 h	M	5.0 10^{-4}	8.5 10^{-11}	1.2 10^{-10}	5.0 10^{-4}	1.2 10^{-10}
		S	5.0 10^{-4}	9.0 10^{-11}	1.3 10^{-10}		
Nd-151	0.207 h	M	5.0 10^{-4}	1.7 10^{-11}	2.8 10^{-11}	5.0 10^{-4}	3.0 10^{-11}
		S	5.0 10^{-4}	1.8 10^{-11}	2.9 10^{-11}		
Promethium							
Pm-141	0.348 h	M	5.0 10^{-4}	1.5 10^{-11}	2.4 10^{-11}	5.0 10^{-4}	3.6 10^{-11}
		S	5.0 10^{-4}	1.6 10^{-11}	2.5 10^{-11}		
Pm-143	265 d	M	5.0 10^{-4}	1.4 10^{-9}	9.6 10^{-10}	5.0 10^{-4}	2.3 10^{-10}
		S	5.0 10^{-4}	1.3 10^{-9}	8.3 10^{-10}		
Pm-144	363 d	M	5.0 10^{-4}	7.8 10^{-9}	5.4 10^{-9}	5.0 10^{-4}	9.7 10^{-10}
		S	5.0 10^{-4}	7.0 10^{-9}	3.9 10^{-9}		
Pm-145	17.7 a	M	5.0 10^{-4}	3.4 10^{-9}	2.4 10^{-9}	5.0 10^{-4}	1.1 10^{-10}
		S	5.0 10^{-4}	2.1 10^{-9}	1.2 10^{-9}		
Pm-146	5.53 a	M	5.0 10^{-4}	1.9 10^{-8}	1.3 10^{-8}	5.0 10^{-4}	9.0 10^{-10}
		S	5.0 10^{-4}	1.6 10^{-8}	9.0 10^{-9}		
Pm-147	2.62 a	M	5.0 10^{-4}	4.7 10^{-9}	3.5 10^{-9}	5.0 10^{-4}	2.6 10^{-10}
		S	5.0 10^{-4}	4.6 10^{-9}	3.2 10^{-9}		
Pm-148	5.37 d	M	5.0 10^{-4}	2.0 10^{-9}	2.1 10^{-9}	5.0 10^{-4}	2.7 10^{-9}
		S	5.0 10^{-4}	2.1 10^{-9}	2.2 10^{-9}		
Pm-148m	41.3 d	M	5.0 10^{-4}	4.9 10^{-9}	4.1 10^{-9}	5.0 10^{-4}	1.8 10^{-9}
		S	5.0 10^{-4}	5.4 10^{-9}	4.3 10^{-9}		
Pm-149	2.21 d	M	5.0 10^{-4}	6.6 10^{-10}	7.6 10^{-10}	5.0 10^{-4}	9.9 10^{-10}
		S	5.0 10^{-4}	7.2 10^{-10}	8.2 10^{-10}		
Pm-150	2.68 h	M	5.0 10^{-4}	1.3 10^{-10}	2.0 10^{-10}	5.0 10^{-4}	2.6 10^{-10}
		S	5.0 10^{-4}	1.4 10^{-10}	2.1 10^{-10}		
Pm-151	1.18 d	M	5.0 10^{-4}	4.2 10^{-10}	6.1 10^{-10}	5.0 10^{-4}	7.3 10^{-10}
		S	5.0 10^{-4}	4.5 10^{-10}	6.4 10^{-10}		
Samarium							
Sm-141	0.170 h	M	5.0 10^{-4}	1.6 10^{-11}	2.7 10^{-11}	5.0 10^{-4}	3.9 10^{-11}
Sm-141m	0.377 h	M	5.0 10^{-4}	3.4 10^{-11}	5.6 10^{-11}	5.0 10^{-4}	6.5 10^{-11}
Sm-142	1.21 h	M	5.0 10^{-4}	7.4 10^{-11}	1.1 10^{-10}	5.0 10^{-4}	1.9 10^{-10}
Sm-145	340 d	M	5.0 10^{-4}	1.5 10^{-9}	1.1 10^{-9}	5.0 10^{-4}	2.1 10^{-10}
Sm-146	1.03 10^{8} a	M	5.0 10^{-4}	9.9 10^{-6}	6.7 10^{-6}	5.0 10^{-4}	5.4 10^{-8}
Sm-147	1.06 10^{11} a	M	5.0 10^{-4}	8.9 10^{-6}	6.1 10^{-6}	5.0 10^{-4}	4.9 10^{-8}
Sm-151	90.0 a	M	5.0 10^{-4}	3.7 10^{-9}	2.6 10^{-9}	5.0 10^{-4}	9.8 10^{-11}
Sm-153	1.95 d	M	5.0 10^{-4}	6.1 10^{-10}	6.8 10^{-10}	5.0 10^{-4}	7.4 10^{-10}
Sm-155	0.368 h	M	5.0 10^{-4}	1.7 10^{-11}	2.8 10^{-11}	5.0 10^{-4}	2.9 10^{-11}
Sm-156	9.40 h	M	5.0 10^{-4}	2.1 10^{-10}	2.8 10^{-10}	5.0 10^{-4}	2.5 10^{-10}
Europium							
Eu-145	5.94 d	M	5.0 10^{-4}	5.6 10^{-10}	7.3 10^{-10}	5.0 10^{-4}	7.5 10^{-10}
Eu-146	4.61 d	M	5.0 10^{-4}	8.2 10^{-10}	1.2 10^{-9}	5.0 10^{-4}	1.3 10^{-9}
Eu-147	24.0 d	M	5.0 10^{-4}	1.0 10^{-9}	1.0 10^{-9}	5.0 10^{-4}	4.4 10^{-10}
Eu-148	54.5 d	M	5.0 10^{-4}	2.7 10^{-9}	2.3 10^{-9}	5.0 10^{-4}	1.3 10^{-9}
Eu-149	93.1 d	M	5.0 10^{-4}	2.7 10^{-10}	2.3 10^{-10}	5.0 10^{-4}	1.0 10^{-10}
Eu-150	34.2 a	M	5.0 10^{-4}	5.0 10^{-8}	3.4 10^{-8}	5.0 10^{-4}	1.3 10^{-9}
Eu-150	12.6 h	M	5.0 10^{-4}	1.9 10^{-10}	2.8 10^{-10}	5.0 10^{-4}	3.8 10^{-10}
Eu-152	13.3 a	M	5.0 10^{-4}	3.9 10^{-8}	2.7 10^{-8}	5.0 10^{-4}	1.4 10^{-9}
Eu-152m	9.32 h	M	5.0 10^{-4}	2.2 10^{-10}	3.2 10^{-10}	5.0 10^{-4}	5.0 10^{-10}
Eu-154	8.80 a	M	5.0 10^{-4}	5.0 10^{-8}	3.5 10^{-8}	5.0 10^{-4}	2.0 10^{-9}
Eu-155	4.96 a	M	5.0 10^{-4}	6.5 10^{-9}	4.7 10^{-9}	5.0 10^{-4}	3.2 10^{-10}
Eu-156	15.2 d	M	5.0 10^{-4}	3.3 10^{-9}	3.0 10^{-9}	5.0 10^{-4}	2.2 10^{-9}

TABLE C1 (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested or inhaled radionuclides for exposed workers.

Nuclide	Physical half-life	Inhalation				Ingestion	
		Lung absorption type	f_1	$h(g)_{1\,\mu m}$	$h(g)_{5\,\mu m}$	f_1	$h(g)$
Eu-157	15.1 h	M	5.0 10^{-4}	3.2 10^{-10}	4.4 10^{-10}	5.0 10^{-4}	6.0 10^{-10}
Eu-158	0.765 h	M	5.0 10^{-4}	4.8 10^{-11}	7.5 10^{-11}	5.0 10^{-4}	9.4 10^{-11}
Gadolinium							
Gd-145	0.382 h	F	5.0 10^{-4}	1.5 10^{-11}	2.6 10^{-11}	5.0 10^{-4}	4.4 10^{-11}
		M	5.0 10^{-4}	2.1 10^{-11}	3.5 10^{-11}		
Gd-146	48.3 d	F	5.0 10^{-4}	4.4 10^{-9}	5.2 10^{-9}	5.0 10^{-4}	9.6 10^{-10}
		M	5.0 10^{-4}	6.0 10^{-9}	4.6 10^{-9}		
Gd-147	1.59 d	F	5.0 10^{-4}	2.7 10^{-10}	4.5 10^{-10}	5.0 10^{-4}	6.1 10^{-10}
		M	5.0 10^{-4}	4.1 10^{-10}	5.9 10^{-10}		
Gd-148	93.0 a	F	5.0 10^{-4}	2.5 10^{-5}	3.0 10^{-5}	5.0 10^{-4}	5.5 10^{-8}
		M	5.0 10^{-4}	1.1 10^{-5}	7.2 10^{-6}		
Gd-149	9.40 d	F	5.0 10^{-4}	2.6 10^{-10}	4.5 10^{-10}	5.0 10^{-4}	4.5 10^{-10}
		M	5.0 10^{-4}	7.0 10^{-10}	7.9 10^{-10}		
Gd-151	120 d	F	5.0 10^{-4}	7.8 10^{-10}	9.3 10^{-10}	5.0 10^{-4}	2.0 10^{-10}
		M	5.0 10^{-4}	8.1 10^{-10}	6.5 10^{-10}		
Gd-152	1.08 10^{14} a	F	5.0 10^{-4}	1.9 10^{-5}	2.2 10^{-5}	5.0 10^{-4}	4.1 10^{-8}
		M	5.0 10^{-4}	7.4 10^{-6}	5.0 10^{-6}		
Gd-153	242 d	F	5.0 10^{-4}	2.1 10^{-9}	2.5 10^{-9}	5.0 10^{-4}	2.7 10^{-10}
		M	5.0 10^{-4}	1.9 10^{-9}	1.4 10^{-9}		
Gd-159	18.6 h	F	5.0 10^{-4}	1.1 10^{-10}	1.8 10^{-10}	5.0 10^{-4}	4.9 10^{-10}
		M	5.0 10^{-4}	2.7 10^{-10}	3.9 10^{-10}		
Terbium							
Tb-147	1.65 h	M	5.0 10^{-4}	7.9 10^{-11}	1.2 10^{-10}	5.0 10^{-4}	1.6 10^{-10}
Tb-149	4.15 h	M	5.0 10^{-4}	4.3 10^{-9}	3.1 10^{-9}	5.0 10^{-4}	2.5 10^{-10}
Tb-150	3.27 h	M	5.0 10^{-4}	1.1 10^{-10}	1.8 10^{-10}	5.0 10^{-4}	2.5 10^{-10}
Tb-151	17.6 h	M	5.0 10^{-4}	2.3 10^{-10}	3.3 10^{-10}	5.0 10^{-4}	3.4 10^{-10}
Tb-153	2.34 d	M	5.0 10^{-4}	2.0 10^{-10}	2.4 10^{-10}	5.0 10^{-4}	2.5 10^{-10}
Tb-154	21.4 h	M	5.0 10^{-4}	3.8 10^{-10}	6.0 10^{-10}	5.0 10^{-4}	6.5 10^{-10}
Tb-155	5.32 d	M	5.0 10^{-4}	2.1 10^{-10}	2.5 10^{-10}	5.0 10^{-4}	2.1 10^{-10}
Tb-156	5.34 d	M	5.0 10^{-4}	1.2 10^{-9}	1.4 10^{-9}	5.0 10^{-4}	1.2 10^{-9}
Tb-156m	1.02 d	M	5.0 10^{-4}	2.0 10^{-10}	2.3 10^{-10}	5.0 10^{-4}	1.7 10^{-10}
Tb-156m	5.00 h	M	5.0 10^{-4}	9.2 10^{-11}	1.3 10^{-10}	5.0 10^{-4}	8.1 10^{-11}
Tb-157	1.50 10^{2} a	M	5.0 10^{-4}	1.1 10^{-9}	7.9 10^{-10}	5.0 10^{-4}	3.4 10^{-11}
Tb-158	1.50 10^{2} a	M	5.0 10^{-4}	4.3 10^{-8}	3.0 10^{-8}	5.0 10^{-4}	1.1 10^{-9}
Tb-160	72.3 d	M	5.0 10^{-4}	6.6 10^{-9}	5.4 10^{-9}	5.0 10^{-4}	1.6 10^{-9}
Tb-161	6.91 d	M	5.0 10^{-4}	1.2 10^{-9}	1.2 10^{-9}	5.0 10^{-4}	7.2 10^{-10}
Dysprosium							
Dy-155	10.0 h	M	5.0 10^{-4}	8.0 10^{-11}	1.2 10^{-10}	5.0 10^{-4}	1.3 10^{-10}
Dy-157	8.10 h	M	5.0 10^{-4}	3.2 10^{-11}	5.5 10^{-11}	5.0 10^{-4}	6.1 10^{-11}
Dy-159	144 d	M	5.0 10^{-4}	3.5 10^{-10}	2.5 10^{-10}	5.0 10^{-4}	1.0 10^{-10}
Dy-165	2.33 h	M	5.0 10^{-4}	6.1 10^{-11}	8.7 10^{-11}	5.0 10^{-4}	1.1 10^{-10}
Dy-166	3.40 d	M	5.0 10^{-4}	1.8 10^{-9}	1.8 10^{-9}	5.0 10^{-4}	1.6 10^{-9}
Holmium							
Ho-155	0.800 h	M	5.0 10^{-4}	2.0 10^{-11}	3.2 10^{-11}	5.0 10^{-4}	3.7 10^{-11}
Ho-157	0.210 h	M	5.0 10^{-4}	4.5 10^{-12}	7.6 10^{-12}	5.0 10^{-4}	6.5 10^{-12}
Ho-159	0.550 h	M	5.0 10^{-4}	6.3 10^{-12}	1.0 10^{-11}	5.0 10^{-4}	7.9 10^{-12}
Ho-161	2.50 h	M	5.0 10^{-4}	6.3 10^{-12}	1.0 10^{-11}	5.0 10^{-4}	1.3 10^{-11}
Ho-162	0.250 h	M	5.0 10^{-4}	2.9 10^{-12}	4.5 10^{-12}	5.0 10^{-4}	3.3 10^{-12}
Ho-162m	1.13 h	M	5.0 10^{-4}	2.2 10^{-11}	3.3 10^{-11}	5.0 10^{-4}	2.6 10^{-11}
Ho-164	0.483 h	M	5.0 10^{-4}	8.6 10^{-12}	1.3 10^{-11}	5.0 10^{-4}	9.5 10^{-12}
Ho-164m	0.625 h	M	5.0 10^{-4}	1.2 10^{-11}	1.6 10^{-11}	5.0 10^{-4}	1.6 10^{-11}
Ho-166	1.12 d	M	5.0 10^{-4}	6.6 10^{-10}	8.3 10^{-10}	5.0 10^{-4}	1.4 10^{-9}
Ho-166m	1.20 10^{3} a	M	5.0 10^{-4}	1.1 10^{-7}	7.8 10^{-8}	5.0 10^{-4}	2.0 10^{-9}
Ho-167	3.10 h	M	5.0 10^{-4}	7.1 10^{-11}	1.0 10^{-10}	5.0 10^{-4}	8.3 10^{-11}
Erbium							
Er-161	3.24 h	M	5.0 10^{-4}	5.1 10^{-11}	8.5 10^{-11}	5.0 10^{-4}	8.0 10^{-11}
Er-165	10.4 h	M	5.0 10^{-4}	8.3 10^{-12}	1.4 10^{-11}	5.0 10^{-4}	1.9 10^{-11}
Er-169	9.30 d	M	5.0 10^{-4}	9.8 10^{-10}	9.2 10^{-10}	5.0 10^{-4}	3.7 10^{-10}
Er-171	7.52 h	M	5.0 10^{-4}	2.2 10^{-10}	3.0 10^{-10}	5.0 10^{-4}	3.6 10^{-10}
Er-172	2.05 d	M	5.0 10^{-4}	1.1 10^{-9}	1.2 10^{-9}	5.0 10^{-4}	1.0 10^{-9}

TABLE C1 (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested or inhaled radionuclides for exposed workers.

Nuclide	Physical half-life	Inhalation				Ingestion	
		Lung absorption type	f_1	$h(g)_{1\,\mu m}$	$h(g)_{5\,\mu m}$	f_1	$h(g)$
Thulium							
Tm-162	0.362 h	M	5.0 10^{-4}	1.6 10^{-11}	2.7 10^{-11}	5.0 10^{-4}	2.9 10^{-11}
Tm-166	7.70 h	M	5.0 10^{-4}	1.8 10^{-10}	2.8 10^{-10}	5.0 10^{-4}	2.8 10^{-10}
Tm-167	9.24 d	M	5.0 10^{-4}	1.1 10^{-9}	1.0 10^{-9}	5.0 10^{-4}	5.6 10^{-10}
Tm-170	129 d	M	5.0 10^{-4}	6.6 10^{-9}	5.2 10^{-9}	5.0 10^{-4}	1.3 10^{-9}
Tm-171	1.92 a	M	5.0 10^{-4}	1.3 10^{-9}	9.1 10^{-10}	5.0 10^{-4}	1.1 10^{-10}
Tm-172	2.65 d	M	5.0 10^{-4}	1.1 10^{-9}	1.4 10^{-9}	5.0 10^{-4}	1.7 10^{-9}
Tm-173	8.24 h	M	5.0 10^{-4}	1.8 10^{-10}	2.6 10^{-10}	5.0 10^{-4}	3.1 10^{-10}
Tm-175	0.253 h	M	5.0 10^{-4}	1.9 10^{-11}	3.1 10^{-11}	5.0 10^{-4}	2.7 10^{-11}
Ytterbium							
Yb-162	0.315 h	M	5.0 10^{-4}	1.4 10^{-11}	2.2 10^{-11}	5.0 10^{-4}	2.3 10^{-11}
		S	5.0 10^{-4}	1.4 10^{-11}	2.3 10^{-11}		
Yb-166	2.36 d	M	5.0 10^{-4}	7.2 10^{-10}	9.1 10^{-10}	5.0 10^{-4}	9.5 10^{-10}
		S	5.0 10^{-4}	7.6 10^{-10}	9.5 10^{-10}		
Yb-167	0.292 h	M	5.0 10^{-4}	6.5 10^{-12}	9.0 10^{-12}	5.0 10^{-4}	6.7 10^{-12}
		S	5.0 10^{-4}	6.9 10^{-12}	9.5 10^{-12}		
Yb-169	32.0 d	M	5.0 10^{-4}	2.4 10^{-9}	2.1 10^{-9}	5.0 10^{-4}	7.1 10^{-10}
		S	5.0 10^{-4}	2.8 10^{-9}	2.4 10^{-9}		
Yb-175	4.19 d	M	5.0 10^{-4}	6.3 10^{-10}	6.4 10^{-10}	5.0 10^{-4}	4.4 10^{-10}
		S	5.0 10^{-4}	7.0 10^{-10}	7.0 10^{-10}		
Yb-177	1.90 h	M	5.0 10^{-4}	6.4 10^{-11}	8.8 10^{-11}	5.0 10^{-4}	9.7 10^{-11}
		S	5.0 10^{-4}	6.9 10^{-11}	9.4 10^{-11}		
Yb-178	1.23 h	M	5.0 10^{-4}	7.1 10^{-11}	1.0 10^{-10}	5.0 10^{-4}	1.2 10^{-10}
		S	5.0 10^{-4}	7.6 10^{-11}	1.1 10^{-10}		
Lutetium							
Lu-169	1.42 d	M	5.0 10^{-4}	3.5 10^{-10}	4.7 10^{-10}	5.0 10^{-4}	4.6 10^{-10}
		S	5.0 10^{-4}	3.8 10^{-10}	4.9 10^{-10}		
Lu-170	2.00 d	M	5.0 10^{-4}	6.4 10^{-10}	9.3 10^{-10}	5.0 10^{-4}	9.9 10^{-10}
		S	5.0 10^{-4}	6.7 10^{-10}	9.5 10^{-10}		
Lu-171	8.22 d	M	5.0 10^{-4}	7.6 10^{-10}	8.8 10^{-10}	5.0 10^{-4}	6.7 10^{-10}
		S	5.0 10^{-4}	8.3 10^{-10}	9.3 10^{-10}		
Lu-172	6.70 d	M	5.0 10^{-4}	1.4 10^{-9}	1.7 10^{-9}	5.0 10^{-4}	1.3 10^{-9}
		S	5.0 10^{-4}	1.5 10^{-9}	1.8 10^{-9}		
Lu-173	1.37 a	M	5.0 10^{-4}	2.0 10^{-9}	1.5 10^{-9}	5.0 10^{-4}	2.6 10^{-10}
		S	5.0 10^{-4}	2.3 10^{-9}	1.4 10^{-9}		
Lu-174	3.31 a	M	5.0 10^{-4}	4.0 10^{-9}	2.9 10^{-9}	5.0 10^{-4}	2.7 10^{-10}
		S	5.0 10^{-4}	3.9 10^{-9}	2.5 10^{-9}		
Lu-174m	142 d	M	5.0 10^{-4}	3.4 10^{-9}	2.4 10^{-9}	5.0 10^{-4}	5.3 10^{-10}
		S	5.0 10^{-4}	3.8 10^{-9}	2.6 10^{-9}		
Lu-176	3.60 10^{10} a	M	5.0 10^{-4}	6.6 10^{-8}	4.6 10^{-8}	5.0 10^{-4}	1.8 10^{-9}
		S	5.0 10^{-4}	5.2 10^{-8}	3.0 10^{-8}		
Lu-176m	3.68 h	M	5.0 10^{-4}	1.1 10^{-10}	1.5 10^{-10}	5.0 10^{-4}	1.7 10^{-10}
		S	5.0 10^{-4}	1.2 10^{-10}	1.6 10^{-10}		
Lu-177	6.71 d	M	5.0 10^{-4}	1.0 10^{-9}	1.0 10^{-9}	5.0 10^{-4}	5.3 10^{-10}
		S	5.0 10^{-4}	1.1 10^{-9}	1.1 10^{-9}		
Lu-177m	161 d	M	5.0 10^{-4}	1.2 10^{-8}	1.0 10^{-8}	5.0 10^{-4}	1.7 10^{-9}
		S	5.0 10^{-4}	1.5 10^{-8}	1.2 10^{-8}		
Lu-178	0.473 h	M	5.0 10^{-4}	2.5 10^{-11}	3.9 10^{-11}	5.0 10^{-4}	4.7 10^{-11}
		S	5.0 10^{-4}	2.6 10^{-11}	4.1 10^{-11}		
Lu-178m	0.378 h	M	5.0 10^{-4}	3.3 10^{-11}	5.4 10^{-11}	5.0 10^{-4}	3.8 10^{-11}
		S	5.0 10^{-4}	3.5 10^{-11}	5.6 10^{-11}		
Lu-179	4.59 h	M	5.0 10^{-4}	1.1 10^{-10}	1.6 10^{-10}	5.0 10^{-4}	2.1 10^{-10}
		S	5.0 10^{-4}	1.2 10^{-10}	1.6 10^{-10}		
Hafnium							
Hf-170	16.0 h	F	0.002	1.7 10^{-10}	2.9 10^{-10}	0.002	4.8 10^{-10}
		M	0.002	3.2 10^{-10}	4.3 10^{-10}		
Hf-172	1.87 a	F	0.002	3.2 10^{-8}	3.7 10^{-8}	0.002	1.0 10^{-9}
		M	0.002	1.9 10^{-8}	1.3 10^{-8}		
Hf-173	24.0 h	F	0.002	7.9 10^{-11}	1.3 10^{-10}	0.002	2.3 10^{-10}
		M	0.002	1.6 10^{-10}	2.2 10^{-10}		
Hf-175	70.0 d	F	0.002	7.2 10^{-10}	8.7 10^{-10}	0.002	4.1 10^{-10}
		M	0.002	1.1 10^{-9}	8.8 10^{-10}		
Hf-177m	0.856 h	F	0.002	4.7 10^{-11}	8.4 10^{-11}	0.002	8.1 10^{-11}
		M	0.002	9.2 10^{-11}	1.5 10^{-10}		

TABLE C1 (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested or inhaled radionuclides for exposed workers.

Nuclide	Physical half-life	Inhalation				Ingestion	
		Lung absorption type	f_1	$h(g)_{1\,\mu m}$	$h(g)_{5\,\mu m}$	f_1	$h(g)$
Hf-178m	31.0 a	F	0.002	2.6 10^{-7}	3.1 10^{-7}	0.002	4.7 10^{-9}
		M	0.002	1.1 10^{-7}	7.8 10^{-8}		
Hf-179m	25.1 d	F	0.002	1.1 10^{-9}	1.4 10^{-9}	0.002	1.2 10^{-9}
		M	0.002	3.6 10^{-9}	3.2 10^{-9}		
Hf-180m	5.50 h	F	0.002	6.4 10^{-11}	1.2 10^{-10}	0.002	1.7 10^{-10}
		M	0.002	1.4 10^{-10}	2.0 10^{-10}		
Hf-181	42.4 d	F	0.002	1.4 10^{-9}	1.8 10^{-9}	0.002	1.1 10^{-9}
		M	0.002	4.7 10^{-9}	4.1 10^{-9}		
Hf-182	9.00 10^{6} a	F	0.002	3.0 10^{-7}	3.6 10^{-7}	0.002	3.0 10^{-9}
		M	0.002	1.2 10^{-7}	8.3 10^{-8}		
Hf-182m	1.02 h	F	0.002	2.3 10^{-11}	4.0 10^{-11}	0.002	4.2 10^{-11}
		M	0.002	4.7 10^{-11}	7.1 10^{-11}		
Hf-183	1.07 h	F	0.002	2.6 10^{-11}	4.4 10^{-11}	0.002	7.3 10^{-11}
		M	0.002	5.8 10^{-11}	8.3 10^{-11}		
Hf-184	4.12 h	F	0.002	1.3 10^{-10}	2.3 10^{-10}	0.002	5.2 10^{-10}
		M	0.002	3.3 10^{-10}	4.5 10^{-10}		
Tantalum							
Ta-172	0.613 h	M	0.001	3.4 10^{-11}	5.5 10^{-11}	0.001	5.3 10^{-11}
		S	0.001	3.6 10^{-11}	5.7 10^{-11}		
Ta-173	3.65 h	M	0.001	1.1 10^{-10}	1.6 10^{-10}	0.001	1.9 10^{-10}
		S	0.001	1.2 10^{-10}	1.6 10^{-10}		
Ta-174	1.20 h	M	0.001	4.2 10^{-11}	6.3 10^{-11}	0.001	5.7 10^{-11}
		S	0.001	4.4 10^{-11}	6.6 10^{-11}		
Ta-175	10.5 h	M	0.001	1.3 10^{-10}	2.0 10^{-10}	0.001	2.1 10^{-10}
		S	0.001	1.4 10^{-10}	2.0 10^{-10}		
Ta-176	8.08 h	M	0.001	2.0 10^{-10}	3.2 10^{-10}	0.001	3.1 10^{-10}
		S	0.001	2.1 10^{-10}	3.3 10^{-10}		
Ta-177	2.36 d	M	0.001	9.3 10^{-11}	1.2 10^{-10}	0.001	1.1 10^{-10}
		S	0.001	1.0 10^{-10}	1.3 10^{-10}		
Ta-178	2.20 h	M	0.001	6.6 10^{-11}	1.0 10^{-10}	0.001	7.8 10^{-11}
		S	0.001	6.9 10^{-11}	1.1 10^{-10}		
Ta-179	1.82 a	M	0.001	2.0 10^{-10}	1.3 10^{-10}	0.001	6.5 10^{-11}
		S	0.001	5.2 10^{-10}	2.9 10^{-10}		
Ta-180	1.00 10^{13} a	M	0.001	6.0 10^{-9}	4.6 10^{-9}	0.001	8.4 10^{-10}
		S	0.001	2.4 10^{-8}	1.4 10^{-8}		
Ta-180m	8.10 h	M	0.001	4.4 10^{-11}	5.8 10^{-11}	0.001	5.4 10^{-11}
		S	0.001	4.7 10^{-11}	6.2 10^{-11}		
Ta-182	115 d	M	0.001	7.2 10^{-9}	5.8 10^{-9}	0.001	1.5 10^{-9}
		S	0.001	9.7 10^{-9}	7.4 10^{-9}		
Ta-182m	0.264 h	M	0.001	2.1 10^{-11}	3.4 10^{-11}	0.001	1.2 10^{-11}
		S	0.001	2.2 10^{-11}	3.6 10^{-11}		
Ta-183	5.10 d	M	0.001	1.8 10^{-9}	1.8 10^{-9}	0.001	1.3 10^{-9}
		S	0.001	2.0 10^{-9}	2.0 10^{-9}		
Ta-184	8.70 h	M	0.001	4.1 10^{-10}	6.0 10^{-10}	0.001	6.8 10^{-10}
		S	0.001	4.4 10^{-10}	6.3 10^{-10}		
Ta-185	0.816 h	M	0.001	4.6 10^{-11}	6.8 10^{-11}	0.001	6.8 10^{-11}
		S	0.001	4.9 10^{-11}	7.2 10^{-11}		
Ta-186	0.175 h	M	0.001	1.8 10^{-11}	3.0 10^{-11}	0.001	3.3 10^{-11}
		S	0.001	1.9 10^{-11}	3.1 10^{-11}		
Tungsten							
W-176	2.30 h	F	0.300	4.4 10^{-11}	7.6 10^{-11}	0.300	1.0 10^{-10}
						0.010	1.1 10^{-10}
W-177	2.25 h	F	0.300	2.6 10^{-11}	4.6 10^{-11}	0.300	5.8 10^{-11}
						0.010	6.1 10^{-11}
W-178	21.7 d	F	0.300	7.6 10^{-11}	1.2 10^{-10}	0.300	2.2 10^{-10}
						0.010	2.5 10^{-10}
W-179	0.625 h	F	0.300	9.9 10^{-13}	1.8 10^{-12}	0.300	3.3 10^{-12}
						0.010	3.3 10^{-12}
W-181	121 d	F	0.300	2.8 10^{-11}	4.3 10^{-11}	0.300	7.6 10^{-11}
						0.010	8.2 10^{-11}
W-185	75.1 d	F	0.300	1.4 10^{-10}	2.2 10^{-10}	0.300	4.4 10^{-10}
						0.010	5.0 10^{-10}

TABLE C1 (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested or inhaled radionuclides for exposed workers.

Nuclide	Physical half-life	Inhalation				Ingestion	
		Lung absorption type	f_1	$h(g)_{1\,\mu m}$	$h(g)_{5\,\mu m}$	f_1	$h(g)$
W-187	23.9 h	F	0.300	2.0 10^{-10}	3.3 10^{-10}	0.300	6.3 10^{-10}
						0.010	7.1 10^{-10}
W-188	69.4 d	F	0.300	5.9 10^{-10}	8.4 10^{-10}	0.300	2.1 10^{-9}
						0.010	2.3 10^{-9}
Rhenium							
Re-177	0.233 h	F	0.800	1.0 10^{-11}	1.7 10^{-11}	0.800	2.2 10^{-11}
		M	0.800	1.4 10^{-11}	2.2 10^{-11}		
Re-178	0.220 h	F	0.800	1.1 10^{-11}	1.8 10^{-11}	0.800	2.5 10^{-11}
		M	0.800	1.5 10^{-11}	2.4 10^{-11}		
Re-181	20.0 h	F	0.800	1.9 10^{-10}	3.0 10^{-10}	0.800	4.2 10^{-10}
		M	0.800	2.5 10^{-10}	3.7 10^{-10}		
Re-182	2.67 d	F	0.800	6.8 10^{-10}	1.1 10^{-9}	0.800	1.4 10^{-9}
		M	0.800	1.3 10^{-9}	1.7 10^{-9}		
Re-182	12.7 h	F	0.800	1.5 10^{-10}	2.4 10^{-10}	0.800	2.7 10^{-10}
		M	0.800	2.0 10^{-10}	3.0 10^{-10}		
Re-184	38.0 d	F	0.800	4.6 10^{-10}	7.0 10^{-10}	0.800	1.0 10^{-9}
		M	0.800	1.8 10^{-9}	1.8 10^{-9}		
Re-184m	165 d	F	0.800	6.1 10^{-10}	8.8 10^{-10}	0.800	1.5 10^{-9}
		M	0.800	6.1 10^{-9}	4.8 10^{-9}		
Re-186	3.78 d	F	0.800	5.3 10^{-10}	7.3 10^{-10}	0.800	1.5 10^{-9}
		M	0.800	1.1 10^{-9}	1.2 10^{-9}		
Re-186m	2.00 10^{5} a	F	0.800	8.5 10^{-10}	1.2 10^{-9}	0.800	2.2 10^{-9}
		M	0.800	1.1 10^{-8}	7.9 10^{-9}		
Re-187	5.00 10^{10} a	F	0.800	1.9 10^{-12}	2.6 10^{-12}	0.800	5.1 10^{-12}
		M	0.800	6.0 10^{-12}	4.6 10^{-12}		
Re-188	17.0 h	F	0.800	4.7 10^{-10}	6.6 10^{-10}	0.800	1.4 10^{-9}
		M	0.800	5.5 10^{-10}	7.4 10^{-10}		
Re-188m	0.3 10 h	F	0.800	1.0 10^{-11}	1.6 10^{-11}	0.800	3.0 10^{-11}
		M	0.800	1.4 10^{-11}	2.0 10^{-11}		
Re-189	1.01 d	F	0.800	2.7 10^{-10}	4.3 10^{-10}	0.800	7.8 10^{-10}
		M	0.800	4.3 10^{-10}	6.0 10^{-10}		
Osmium							
Os-180	0.366 h	F	0.010	8.8 10^{-12}	1.6 10^{-11}	0.010	1.7 10^{-11}
		M	0.010	1.4 10^{-11}	2.4 10^{-11}		
		S	0.010	1.5 10^{-11}	2.5 10^{-11}		
Os-181	1.75 h	F	0.010	3.6 10^{-11}	6.4 10^{-11}	0.010	8.9 10^{-11}
		M	0.010	6.3 10^{-11}	9.6 10^{-11}		
		S	0.010	6.6 10^{-11}	1.0 10^{-10}		
Os-182	22.0 h	F	0.010	1.9 10^{-10}	3.2 10^{-10}	0.010	5.6 10^{-10}
		M	0.010	3.7 10^{-10}	5.0 10^{-10}		
		S	0.010	3.9 10^{-10}	5.2 10^{-10}		
Os-185	94.0 d	F	0.010	1.1 10^{-9}	1.4 10^{-9}	0.010	5.1 10^{-10}
		M	0.010	1.2 10^{-9}	1.0 10^{-9}		
		S	0.010	1.5 10^{-9}	1.1 10^{-9}		
Os-189m	6.00 h	F	0.010	2.7 10^{-12}	5.2 10^{-12}	0.010	1.8 10^{-11}
		M	0.010	5.1 10^{-12}	7.6 10^{-12}		
		S	0.010	5.4 10^{-12}	7.9 10^{-12}		
Os-191	15.4 d	F	0.010	2.5 10^{-10}	3.5 10^{-10}	0.010	5.7 10^{-10}
		M	0.010	1.5 10^{-9}	1.3 10^{-9}		
		S	0.010	1.8 10^{-9}	1.5 10^{-9}		
Os-191m	13.0 h	F	0.010	2.6 10^{-11}	4.1 10^{-11}	0.010	9.6 10^{-11}
		M	0.010	1.3 10^{-10}	1.3 10^{-10}		
		S	0.010	1.5 10^{-10}	1.4 10^{-10}		
Os-193	1.25 d	F	0.010	1.7 10^{-10}	2.8 10^{-10}	0.010	8.1 10^{-10}
		M	0.010	4.7 10^{-10}	6.4 10^{-10}		
		S	0.010	5.1 10^{-10}	6.8 10^{-10}		
Os-194	6.00 a	F	0.010	1.1 10^{-8}	1.3 10^{-8}	0.010	2.4 10^{-9}
		M	0.010	2.0 10^{-8}	1.3 10^{-8}		
		S	0.010	7.9 10^{-8}	4.2 10^{-8}		
Iridium							
Ir-182	0.250 h	F	0.010	1.5 10^{-11}	2.6 10^{-11}	0.010	4.8 10^{-11}
		M	0.010	2.4 10^{-11}	3.9 10^{-11}		
		S	0.010	2.5 10^{-11}	4.0 10^{-11}		

TABLE C1 (continues)
Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested or inhaled radionuclides for exposed workers.

Nuclide	Physical half-life	Inhalation				Ingestion	
		Lung absorption type	f_1	$h(g)_{1\,\mu m}$	$h(g)_{5\,\mu m}$	f_1	$h(g)$
Ir-184	3.02 h	F	0.010	6.7 10^{-11}	1.2 10^{-10}	0.010	1.7 10^{-10}
		M	0.010	1.1 10^{-10}	1.8 10^{-10}		
		S	0.010	1.2 10^{-10}	1.9 10^{-10}		
Ir-185	14.0 h	F	0.010	8.8 10^{-11}	1.5 10^{-10}	0.010	2.6 10^{-10}
		M	0.010	1.8 10^{-10}	2.5 10^{-10}		
		S	0.010	1.9 10^{-10}	2.6 10^{-10}		
Ir-186	15.8 h	F	0.010	1.8 10^{-10}	3.3 10^{-10}	0.010	4.9 10^{-10}
		M	0.010	3.2 10^{-10}	4.8 10^{-10}		
		S	0.010	3.3 10^{-10}	5.0 10^{-10}		
Ir-186	1.75 h	F	0.010	2.5 10^{-11}	4.5 10^{-11}	0.010	6.1 10^{-11}
		M	0.010	4.3 10^{-11}	6.9 10^{-11}		
		S	0.010	4.5 10^{-11}	7.1 10^{-11}		
Ir-187	10.5 h	F	0.010	4.0 10^{-11}	7.2 10^{-11}	0.010	1.2 10^{-10}
		M	0.010	7.5 10^{-11}	1.1 10^{-10}		
		S	0.010	7.9 10^{-11}	1.2 10^{-10}		
Ir-188	1.73 d	F	0.010	2.6 10^{-10}	4.4 10^{-10}	0.010	6.3 10^{-10}
		M	0.010	4.1 10^{-10}	6.0 10^{-10}		
		S	0.010	4.3 10^{-10}	6.2 10^{-10}		
Ir-189	13.3 d	F	0.010	1.1 10^{-10}	1.7 10^{-10}	0.010	2.4 10^{-10}
		M	0.010	4.8 10^{-10}	4.1 10^{-10}		
		S	0.010	5.5 10^{-10}	4.6 10^{-10}		
Ir-190	12.1 d	F	0.010	7.9 10^{-10}	1.2 10^{-9}	0.010	1.2 10^{-9}
		M	0.010	2.0 10^{-9}	2.3 10^{-9}		
		S	0.010	2.3 10^{-9}	2.5 10^{-9}		
Ir-190m	3.10 h	F	0.010	5.3 10^{-11}	9.7 10^{-11}	0.010	1.2 10^{-10}
		M	0.010	8.3 10^{-11}	1.4 10^{-10}		
		S	0.010	8.6 10^{-11}	1.4 10^{-10}		
Ir-190m	1.20 h	F	0.010	3.7 10^{-12}	5.6 10^{-12}	0.010	8.0 10^{-12}
		M	0.010	9.0 10^{-12}	1.0 10^{-11}		
		S	0.010	1.0 10^{-11}	1.1 10^{-11}		
Ir-192	74.0 d	F	0.010	1.8 10^{-9}	2.2 10^{-9}	0.010	1.4 10^{-9}
		M	0.010	4.9 10^{-9}	4.1 10^{-9}		
		S	0.010	6.2 10^{-9}	4.9 10^{-9}		
Ir-192m	2.41 10^{2} a	F	0.010	4.8 10^{-9}	5.6 10^{-9}	0.010	3.1 10^{-10}
		M	0.010	5.4 10^{-9}	3.4 10^{-9}		
		S	0.010	3.6 10^{-8}	1.9 10^{-8}		
Ir-193m	11.9 d	F	0.010	1.0 10^{-10}	1.6 10^{-10}	0.010	2.7 10^{-10}
		M	0.010	1.0 10^{-9}	9.1 10^{-10}		
		S	0.010	1.2 10^{-9}	1.0 10^{-9}		
Ir-194	19.1 h	F	0.010	2.2 10^{-10}	3.6 10^{-10}	0.010	1.3 10^{-9}
		M	0.010	5.3 10^{-10}	7.1 10^{-10}		
		S	0.010	5.6 10^{-10}	7.5 10^{-10}		
Ir-194m	171 d	F	0.010	5.4 10^{-9}	6.5 10^{-9}	0.010	2.1 10^{-9}
		M	0.010	8.5 10^{-9}	6.5 10^{-9}		
		S	0.010	1.2 10^{-8}	8.2 10^{-9}		
Ir-195	2.50 h	F	0.010	2.6 10^{-11}	4.5 10^{-11}	0.010	1.0 10^{-10}
		M	0.010	6.7 10^{-11}	9.6 10^{-11}		
		S	0.010	7.2 10^{-11}	1.0 10^{-10}		
Ir-195m	3.80 h	F	0.010	6.5 10^{-11}	1.1 10^{-10}	0.010	2.1 10^{-10}
		M	0.010	1.6 10^{-10}	2.3 10^{-10}		
		S	0.010	1.7 10^{-10}	2.4 10^{-10}		
Platinum							
Pt-186	2.00 h	F	0.010	3.6 10^{-11}	6.6 10^{-11}	0.010	9.3 10^{-11}
Pt-188	10.2 d	F	0.010	4.3 10^{-10}	6.3 10^{-10}	0.010	7.6 10^{-10}
Pt-189	10.9 h	F	0.010	4.1 10^{-11}	7.3 10^{-11}	0.010	1.2 10^{-10}
Pt-191	2.80 d	F	0.010	1.1 10^{-10}	1.9 10^{-10}	0.010	3.4 10^{-10}
Pt-193	50.0 a	F	0.010	2.1 10^{-11}	2.7 10^{-11}	0.010	3.1 10^{-11}
Pt-193m	4.33 d	F	0.010	1.3 10^{-10}	2.1 10^{-10}	0.010	4.5 10^{-10}
Pt-195m	4.02 d	F	0.010	1.9 10^{-10}	3.1 10^{-10}	0.010	6.3 10^{-10}
Pt-197	18.3 h	F	0.010	9.1 10^{-11}	1.6 10^{-10}	0.010	4.0 10^{-10}
Pt-197m	1.57 h	F	0.010	2.5 10^{-11}	4.3 10^{-11}	0.010	8.4 10^{-11}
Pt-199	0.513 h	F	0.010	1.3 10^{-11}	2.2 10^{-11}	0.010	3.9 10^{-11}
Pt-200	12.5 h	F	0.010	2.4 10^{-10}	4.0 10^{-10}	0.010	1.2 10^{-9}

TABLE C1 (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested or inhaled radionuclides for exposed workers.

Nuclide	Physical half-life	Inhalation				Ingestion	
		Lung absorption type	f_1	$h(g)_{1\ \mu m}$	$h(g)_{5\ \mu m}$	f_1	$h(g)$
Gold							
Au-193	17.6 h	F	0.100	3.9 10^{-11}	7.1 10^{-11}	0.100	1.3 10^{-10}
		M	0.100	1.1 10^{-10}	1.5 10^{-10}		
		S	0.100	1.2 10^{-10}	1.6 10^{-10}		
Au-194	1.64 d	F	0.100	1.5 10^{-10}	2.8 10^{-10}	0.100	4.2 10^{-10}
		M	0.100	2.4 10^{-10}	3.7 10^{-10}		
		S	0.100	2.5 10^{-10}	3.8 10^{-10}		
Au-195	183 d	F	0.100	7.1 10^{-11}	1.2 10^{-10}	0.100	2.5 10^{-10}
		M	0.100	1.0 10^{-9}	8.0 10^{-10}		
		S	0.100	1.6 10^{-9}	1.2 10^{-9}		
Au-198	2.69 d	F	0.100	2.3 10^{-10}	3.9 10^{-10}	0.100	1.0 10^{-9}
		M	0.100	7.6 10^{-10}	9.8 10^{-10}		
		S	0.100	8.4 10^{-10}	1.1 10^{-9}		
Au-198m	2.30 d	F	0.100	3.4 10^{-10}	5.9 10^{-10}	0.100	1.3 10^{-9}
		M	0.100	1.7 10^{-9}	2.0 10^{-9}		
		S	0.100	1.9 10^{-9}	1.9 10^{-9}		
Au-199	3.14 d	F	0.100	1.1 10^{-10}	1.9 10^{-10}	0.100	4.4 10^{-10}
		M	0.100	6.8 10^{-10}	6.8 10^{-10}		
		S	0.100	7.5 10^{-10}	7.6 10^{-10}		
Au-200	0.807 h	F	0.100	1.7 10^{-11}	3.0 10^{-11}	0.100	6.8 10^{-11}
		M	0.100	3.5 10^{-11}	5.3 10^{-11}		
		S	0.100	3.6 10^{-11}	5.6 10^{-11}		
Au-200m	18.7 h	F	0.100	3.2 10^{-10}	5.7 10^{-10}	0.100	1.1 10^{-9}
		M	0.100	6.9 10^{-10}	9.8 10^{-10}		
		S	0.100	7.3 10^{-10}	1.0 10^{-9}		
Au-201	0.440 h	F	0.100	9.2 10^{-12}	1.6 10^{-11}	0.100	2.4 10^{-11}
		M	0.100	1.7 10^{-11}	2.8 10^{-11}		
		S	0.100	1.8 10^{-11}	2.9 10^{-11}		
Mercury							
Hg-193	3.50 h	F	0.400	2.6 10^{-11}	4.7 10^{-11}	1.000	3.1 10^{-11}
(organic)						0.400	6.6 10^{-11}
Hg-193	3.50 h	F	0.020	2.8 10^{-11}	5.0 10^{-11}	0.020	8.2 10^{-11}
(inorganic)		M	0.020	7.5 10^{-11}	1.0 10^{-10}		
Hg-193m	11.1 h	F	0.400	1.1 10^{-10}	2.0 10^{-10}	1.000	1.3 10^{-10}
(organic)						0.400	3.0 10^{-10}
Hg-193m	11.1 h	F	0.020	1.2 10^{-10}	2.3 10^{-10}	0.020	4.0 10^{-10}
(inorganic)		M	0.020	2.6 10^{-10}	3.8 10^{-10}		
Hg-194	2.60 10^{2} a	F	0.400	1.5 10^{-8}	1.9 10^{-8}	1.000	5.1 10^{-8}
(organic)						0.400	2.1 10^{-8}
Hg-194	2.60 10^{2} a	F	0.020	1.3 10^{-8}	1.5 10^{-8}	0.020	1.4 10^{-9}
(inorganic)		M	0.020	7.8 10^{-9}	5.3 10^{-9}		
Hg-195	9.90 h	F	0.400	2.4 10^{-11}	4.4 10^{-11}	1.000	3.4 10^{-11}
(organic)						0.400	7.5 10^{-11}
Hg-195	9.90 h	F	0.020	2.7 10^{-11}	4.8 10^{-11}	0.020	9.7 10^{-11}
(inorganic)		M	0.020	7.2 10^{-11}	9.2 10^{-11}		
Hg-195m	1.73 d	F	0.400	1.3 10^{-10}	2.2 10^{-10}	1.000	2.2 10^{-10}
(organic)						0.400	4.1 10^{-10}
Hg-195m	1.73 d	F	0.020	1.5 10^{-10}	2.6 10^{-10}	0.020	5.6 10^{-10}
(inorganic)		M	0.020	5.1 10^{-10}	6.5 10^{-10}		
Hg-197	2.67 d	F	0.400	5.0 10^{-11}	8.5 10^{-11}	1.000	9.9 10^{-11}
(organic)						0.400	1.7 10^{-10}
Hg-197	2.67 d	F	0.020	6.0 10^{-11}	1.0 10^{-10}	0.020	2.3 10^{-10}
(inorganic)		M	0.020	2.9 10^{-10}	2.8 10^{-10}		
Hg-197m	23.8 h	F	0.400	1.0 10^{-10}	1.8 10^{-10}	1.000	1.5 10^{-10}
(organic)						0.400	3.4 10^{-10}
Hg-197m	23.8 h	F	0.020	1.2 10^{-10}	2.1 10^{-10}	0.020	4.7 10^{-10}
(inorganic)		M	0.020	5.1 10^{-10}	6.6 10^{-10}		
Hg-199m	0.7 10 h	F	0.400	1.6 10^{-11}	2.7 10^{-11}	1.000	2.8 10^{-11}
(organic)						0.400	3.1 10^{-11}
Hg-199m	0.7 10 h	F	0.020	1.6 10^{-11}	2.7 10^{-11}	0.020	3.1 10^{-11}
(inorganic)		M	0.020	3.3 10^{-11}	5.2 10^{-11}		
Hg-203	46.6 d	F	0.400	5.7 10^{-10}	7.5 10^{-10}	1.000	1.9 10^{-9}
(organic)						0.400	1.1 10^{-9}
Hg-203	46.6 d	F	0.020	4.7 10^{-10}	5.9 10^{-10}	0.020	5.4 10^{-10}
(inorganic)		M	0.020	2.3 10^{-9}	1.9 10^{-9}		

TABLE C1 (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested or inhaled radionuclides for exposed workers.

Nuclide	Physical half-life	Inhalation				Ingestion	
		Lung absorption type	f_1	$h(g)_{1\,\mu m}$	$h(g)_{5\,\mu m}$	f_1	$h(g)$
Thallium							
Tl-194	0.550 h	F	1.000	4.8 10^{-12}	8.9 10^{-12}	1.000	8.1 10^{-12}
Tl-194m	0.546 h	F	1.000	2.0 10^{-11}	3.6 10^{-11}	1.000	4.0 10^{-11}
Tl-195	1.16 h	F	1.000	1.6 10^{-11}	3.0 10^{-11}	1.000	2.7 10^{-11}
Tl-197	2.84 h	F	1.000	1.5 10^{-11}	2.7 10^{-11}	1.000	2.3 10^{-11}
Tl-198	5.30 h	F	1.000	6.6 10^{-11}	1.2 10^{-10}	1.000	7.3 10^{-11}
Tl-198m	1.87 h	F	1.000	4.0 10^{-11}	7.3 10^{-11}	1.000	5.4 10^{-11}
Tl-199	7.42 h	F	1.000	2.0 10^{-11}	3.7 10^{-11}	1.000	2.6 10^{-11}
Tl-200	1.09 d	F	1.000	1.4 10^{-10}	2.5 10^{-10}	1.000	2.0 10^{-10}
Tl-201	3.04 d	F	1.000	4.7 10^{-11}	7.6 10^{-11}	1.000	9.5 10^{-11}
Tl-202	12.2 d	F	1.000	2.0 10^{-10}	3.1 10^{-10}	1.000	4.5 10^{-10}
Tl-204	3.78 a	F	1.000	4.4 10^{-10}	6.2 10^{-10}	1.000	1.3 10^{-9}
Lead							
Pb-195m	0.263 h	F	0.200	1.7 10^{-11}	3.0 10^{-11}	0.200	2.9 10^{-11}
Pb-198	2.40 h	F	0.200	4.7 10^{-11}	8.7 10^{-11}	0.200	1.0 10^{-10}
Pb-199	1.50 h	F	0.200	2.6 10^{-11}	4.8 10^{-11}	0.200	5.4 10^{-11}
Pb-200	21.5 h	F	0.200	1.5 10^{-10}	2.6 10^{-10}	0.200	4.0 10^{-10}
Pb-201	9.40 h	F	0.200	6.5 10^{-11}	1.2 10^{-10}	0.200	1.6 10^{-10}
Pb-202	3.00 10^{5} a	F	0.200	1.1 10^{-8}	1.4 10^{-8}	0.200	8.7 10^{-9}
Pb-202m	3.62 h	F	0.200	6.7 10^{-11}	1.2 10^{-10}	0.200	1.3 10^{-10}
Pb-203	2.17 d	F	0.200	9.1 10^{-11}	1.6 10^{-10}	0.200	2.4 10^{-10}
Pb-205	1.43 10^{7} a	F	0.200	3.4 10^{-10}	4.1 10^{-10}	0.200	2.8 10^{-10}
Pb-209	3.25 h	F	0.200	1.8 10^{-11}	3.2 10^{-11}	0.200	5.7 10^{-11}
Pb-210	22.3 a	F	0.200	8.9 10^{-7}	1.1 10^{-6}	0.200	6.8 10^{-7}
Pb-211	0.601 h	F	0.200	3.9 10^{-9}	5.6 10^{-9}	0.200	1.8 10^{-10}
Pb-212	10.6 h	F	0.200	1.9 10^{-8}	3.3 10^{-8}	0.200	5.9 10^{-9}
Pb-214	0.447 h	F	0.200	2.9 10^{-9}	4.8 10^{-9}	0.200	1.4 10^{-10}
Bismuth							
Bi-200	0.606 h	F	0.050	2.4 10^{-11}	4.2 10^{-11}	0.050	5.1 10^{-11}
		M	0.050	3.4 10^{-11}	5.6 10^{-11}		
Bi-201	1.80 h	F	0.050	4.7 10^{-11}	8.3 10^{-11}	0.050	1.2 10^{-10}
		M	0.050	7.0 10^{-11}	1.1 10^{-10}		
Bi-202	1.67 h	F	0.050	4.6 10^{-11}	8.4 10^{-11}	0.050	8.9 10^{-11}
		M	0.050	5.8 10^{-11}	1.0 10^{-10}		
Bi-203	11.8 h	F	0.050	2.0 10^{-10}	3.6 10^{-10}	0.050	4.8 10^{-10}
		M	0.050	2.8 10^{-10}	4.5 10^{-10}		
Bi-205	15.3 d	F	0.050	4.0 10^{-10}	6.8 10^{-10}	0.050	9.0 10^{-10}
		M	0.050	9.2 10^{-10}	1.0 10^{-9}		
Bi-206	6.24 d	F	0.050	7.9 10^{-10}	1.3 10^{-9}	0.050	1.9 10^{-9}
		M	0.050	1.7 10^{-9}	2.1 10^{-9}		
Bi-207	38.0 a	F	0.050	5.2 10^{-10}	8.4 10^{-10}	0.050	1.3 10^{-9}
		M	0.050	5.2 10^{-9}	3.2 10^{-9}		
Bi-210	5.01 d	F	0.050	1.1 10^{-9}	1.4 10^{-9}	0.050	1.3 10^{-9}
		M	0.050	8.4 10^{-8}	6.0 10^{-8}		
Bi-210m	3.00 10^{6} a	F	0.050	4.5 10^{-8}	5.3 10^{-8}	0.050	1.5 10^{-8}
		M	0.050	3.1 10^{-6}	2.1 10^{-6}		
Bi-212	1.01 h	F	0.050	9.3 10^{-9}	1.5 10^{-8}	0.050	2.6 10^{-10}
		M	0.050	3.0 10^{-8}	3.9 10^{-8}		
Bi-213	0.761 h	F	0.050	1.1 10^{-8}	1.8 10^{-8}	0.050	2.0 10^{-10}
		M	0.050	2.9 10^{-8}	4.1 10^{-8}		
Bi-214	0.332 h	F	0.050	7.2 10^{-9}	1.2 10^{-8}	0.050	1.1 10^{-10}
		M	0.050	1.4 10^{-8}	2.1 10^{-8}		
Polonium							
Po-203	0.612 h	F	0.100	2.5 10^{-11}	4.5 10^{-11}	0.100	5.2 10^{-11}
		M	0.100	3.6 10^{-11}	6.1 10^{-11}		
Po-205	1.80 h	F	0.100	3.5 10^{-11}	6.0 10^{-11}	0.100	5.9 10^{-11}
		M	0.100	6.4 10^{-11}	8.9 10^{-11}		
Po-207	5.83 h	F	0.100	6.3 10^{-11}	1.2 10^{-10}	0.100	1.4 10^{-10}
		M	0.100	8.4 10^{-11}	1.5 10^{-10}		
Po-210	138 d	F	0.100	6.0 10^{-7}	7.1 10^{-7}	0.100	2.4 10^{-7}
		M	0.100	3.0 10^{-6}	2.2 10^{-6}		

TABLE C1 (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested or inhaled radionuclides for exposed workers.

Nuclide	Physical half-life	Inhalation				Ingestion	
		Lung absorption type	f_1	$h(g)_{1\,\mu m}$	$h(g)_{5\,\mu m}$	f_1	$h(g)$
Astatine							
At-207	1.80 h	F	1.000	3.5 10^{-10}	4.4 10^{-10}	1.000	2.3 10^{-10}
		M	1.000	2.1 10^{-9}	1.9 10^{-9}		
At-211	7.21 h	F	1.000	1.6 10^{-8}	2.7 10^{-8}	1.000	1.1 10^{-8}
		M	1.000	9.8 10^{-8}	1.1 10^{-7}		
Francium							
Fr-222	0.240 h	F	1.000	1.4 10^{-8}	2.1 10^{-8}	1.000	7.1 10^{-10}
Fr-223	0.363 h	F	1.000	9.1 10^{-10}	1.3 10^{-9}	1.000	2.3 10^{-9}
Radium							
Ra-223	11.4 d	M	0.200	6.9 10^{-6}	5.7 10^{-6}	0.200	1.0 10^{-7}
Ra-224	3.66 d	M	0.200	2.9 10^{-6}	2.4 10^{-6}	0.200	6.5 10^{-8}
Ra-225	14.8 d	M	0.200	5.8 10^{-6}	4.8 10^{-6}	0.200	9.5 10^{-8}
Ra-226	1.60 10^{3} a	M	0.200	3.2 10^{-6}	2.2 10^{-6}	0.200	2.8 10^{-7}
Ra-227	0.703 h	M	0.200	2.8 10^{-10}	2.1 10^{-10}	0.200	8.4 10^{-11}
Ra-228	5.75 a	M	0.200	2.6 10^{-6}	1.7 10^{-6}	0.200	6.7 10^{-7}
Actinium							
Ac-224	2.90 h	F	5.0 10^{-4}	1.1 10^{-8}	1.3 10^{-8}	5.0 10^{-4}	7.0 10^{-10}
		M	5.0 10^{-4}	1.0 10^{-7}	8.9 10^{-8}		
		S	5.0 10^{-4}	1.2 10^{-7}	9.9 10^{-8}		
Ac-225	10.0 d	F	5.0 10^{-4}	8.7 10^{-7}	1.0 10^{-6}	5.0 10^{-4}	2.4 10^{-8}
		M	5.0 10^{-4}	6.9 10^{-6}	5.7 10^{-6}		
		S	5.0 10^{-4}	7.9 10^{-6}	6.5 10^{-6}		
Ac-226	1.21 d	F	5.0 10^{-4}	9.5 10^{-8}	2.2 10^{-7}	5.0 10^{-4}	1.0 10^{-8}
		M	5.0 10^{-4}	1.1 10^{-6}	9.2 10^{-7}		
		S	5.0 10^{-4}	1.2 10^{-6}	1.0 10^{-6}		
Ac-227	21.8 a	F	5.0 10^{-4}	5.4 10^{-4}	6.3 10^{-4}	5.0 10^{-4}	1.1 10^{-6}
		M	5.0 10^{-4}	2.1 10^{-4}	1.5 10^{-4}		
		S	5.0 10^{-4}	6.6 10^{-5}	4.7 10^{-5}		
Ac-228	6.13 h	F	5.0 10^{-4}	2.5 10^{-8}	2.9 10^{-8}	5.0 10^{-4}	4.3 10^{-10}
		M	5.0 10^{-4}	1.6 10^{-8}	1.2 10^{-8}		
		S	5.0 10^{-4}	1.4 10^{-8}	1.2 10^{-8}		
Thorium							
Th-226	0.515 h	M	5.0 10^{-4}	5.5 10^{-8}	7.4 10^{-8}	5.0 10^{-4}	3.5 10^{-10}
		S	2.0 10^{-4}	5.9 10^{-8}	7.8 10^{-8}	2.0 10^{-4}	3.6 10^{-10}
Th-227	18.7 d	M	5.0 10^{-4}	7.8 10^{-6}	6.2 10^{-6}	5.0 10^{-4}	8.9 10^{-9}
		S	2.0 10^{-4}	9.6 10^{-6}	7.6 10^{-6}	2.0 10^{-4}	8.4 10^{-9}
Th-228	1.91 a	M	5.0 10^{-4}	3.1 10^{-5}	2.3 10^{-5}	5.0 10^{-4}	7.0 10^{-8}
		S	2.0 10^{-4}	3.9 10^{-5}	3.2 10^{-5}	2.0 10^{-4}	3.5 10^{-8}
Th-229	7.34 10^{3} a	M	5.0 10^{-4}	9.9 10^{-5}	6.9 10^{-5}	5.0 10^{-4}	4.8 10^{-7}
		S	2.0 10^{-4}	6.5 10^{-5}	4.8 10^{-5}	2.0 10^{-4}	2.0 10^{-7}
Th-230	7.70 10^{4} a	M	5.0 10^{-4}	4.0 10^{-5}	2.8 10^{-5}	5.0 10^{-4}	2.1 10^{-7}
		S	2.0 10^{-4}	1.3 10^{-5}	7.2 10^{-6}	2.0 10^{-4}	8.7 10^{-8}
Th-231	1.06 d	M	5.0 10^{-4}	2.9 10^{-10}	3.7 10^{-10}	5.0 10^{-4}	3.4 10^{-10}
		S	2.0 10^{-4}	3.2 10^{-10}	4.0 10^{-10}	2.0 10^{-4}	3.4 10^{-10}
Th-232	1.40 10^{10} a	M	5.0 10^{-4}	4.2 10^{-5}	2.9 10^{-5}	5.0 10^{-4}	2.2 10^{-7}
		S	2.0 10^{-4}	2.3 10^{-5}	1.2 10^{-5}	2.0 10^{-4}	9.2 10^{-8}
Th-234	24.1 d	M	5.0 10^{-4}	6.3 10^{-9}	5.3 10^{-9}	5.0 10^{-4}	3.4 10^{-9}
		S	2.0 10^{-4}	7.3 10^{-9}	5.8 10^{-9}	2.0 10^{-4}	3.4 10^{-9}
Protactinium							
Pa-227	0.638 h	M	5.0 10^{-4}	7.0 10^{-8}	9.0 10^{-8}	5.0 10^{-4}	4.5 10^{-10}
		S	5.0 10^{-4}	7.6 10^{-8}	9.7 10^{-8}		
Pa-228	22.0 h	M	5.0 10^{-4}	5.9 10^{-8}	4.6 10^{-8}	5.0 10^{-4}	7.8 10^{-10}
		S	5.0 10^{-4}	6.9 10^{-8}	5.1 10^{-8}		
Pa-230	17.4 h	M	5.0 10^{-4}	5.6 10^{-7}	4.6 10^{-7}	5.0 10^{-4}	9.2 10^{-10}
		S	5.0 10^{-4}	7.1 10^{-7}	5.7 10^{-7}		
Pa-231	3.27 10^{4} a	M	5.0 10^{-4}	1.3 10^{-4}	8.9 10^{-5}	5.0 10^{-4}	7.1 10^{-7}
		S	5.0 10^{-4}	3.2 10^{-5}	1.7 10^{-5}		
Pa-232	1.31 d	M	5.0 10^{-4}	9.5 10^{-9}	6.8 10^{-9}	5.0 10^{-4}	7.2 10^{-10}
		S	5.0 10^{-4}	3.2 10^{-9}	2.0 10^{-9}		

TABLE C1 (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested or inhaled radionuclides for exposed workers.

Nuclide	Physical half-life	Inhalation				Ingestion	
		Lung absorption type	f_1	$h(g)_{1\,\mu m}$	$h(g)_{5\,\mu m}$	f_1	$h(g)$
Pa-233	27.0 d	M	5.0 10^{-4}	3.1 10^{-9}	2.8 10^{-9}	5.0 10^{-4}	8.7 10^{-10}
		S	5.0 10^{-4}	3.7 10^{-9}	3.2 10^{-9}		
Pa-234	6.70 h	M	5.0 10^{-4}	3.8 10^{-10}	5.5 10^{-10}	5.0 10^{-4}	5.1 10^{-10}
		S	5.0 10^{-4}	4.0 10^{-10}	5.8 10^{-10}		
Uranium							
U-230	20.8 d	F	0.020	3.6 10^{-7}	4.2 10^{-7}	0.020	5.5 10^{-8}
		M	0.020	1.2 10^{-5}	1.0 10^{-5}	0.002	2.8 10^{-8}
		S	0.002	1.5 10^{-5}	1.2 10^{-5}		
U-231	4.20 d	F	0.020	8.3 10^{-11}	1.4 10^{-10}	0.020	2.8 10^{-10}
		M	0.020	3.4 10^{-10}	3.7 10^{-10}	0.002	2.8 10^{-10}
		S	0.002	3.7 10^{-10}	4.0 10^{-10}		
U-232	72.0 a	F	0.020	4.0 10^{-6}	4.7 10^{-6}	0.020	3.3 10^{-7}
		M	0.020	7.2 10^{-6}	4.8 10^{-6}	0.002	3.7 10^{-8}
		S	0.002	3.5 10^{-5}	2.6 10^{-5}		
U-233	1.58 10^{5} a	F	0.020	5.7 10^{-7}	6.6 10^{-7}	0.020	5.0 10^{-8}
		M	0.020	3.2 10^{-6}	2.2 10^{-6}	0.002	8.5 10^{-9}
		S	0.002	8.7 10^{-6}	6.9 10^{-6}		
U-234	2.44 10^{5} a	F	0.020	5.5 10^{-7}	6.4 10^{-7}	0.020	4.9 10^{-8}
		M	0.020	3.1 10^{-6}	2.1 10^{-6}	0.002	8.3 10^{-9}
		S	0.002	8.5 10^{-6}	6.8 10^{-6}		
U-235	7.04 10^{8} a	F	0.020	5.1 10^{-7}	6.0 10^{-7}	0.020	4.6 10^{-8}
		M	0.020	2.8 10^{-6}	1.8 10^{-6}	0.002	8.3 10^{-9}
		S	0.002	7.7 10^{-6}	6.1 10^{-6}		
U-236	2.34 10^{7} a	F	0.020	5.2 10^{-7}	6.1 10^{-7}	0.020	4.6 10^{-8}
		M	0.020	2.9 10^{-6}	1.9 10^{-6}	0.002	7.9 10^{-9}
		S	0.002	7.9 10^{-6}	6.3 10^{-6}		
U-237	6.75 d	F	0.020	1.9 10^{-10}	3.3 10^{-10}	0.020	7.6 10^{-10}
		M	0.020	1.6 10^{-9}	1.5 10^{-9}	0.002	7.7 10^{-10}
		S	0.002	1.8 10^{-9}	1.7 10^{-9}		
U-238	4.47 10^{9} a	F	0.020	4.9 10^{-7}	5.8 10^{-7}	0.020	4.4 10^{-8}
		M	0.020	2.6 10^{-6}	1.6 10^{-6}	0.002	7.6 10^{-9}
		S	0.002	7.3 10^{-6}	5.7 10^{-6}		
U-239	0.392 h	F	0.020	1.1 10^{-11}	1.8 10^{-11}	0.020	2.7 10^{-11}
		M	0.020	2.3 10^{-11}	3.3 10^{-11}	0.002	2.8 10^{-11}
		S	0.002	2.4 10^{-11}	3.5 10^{-11}		
U-240	14.1 h	F	0.020	2.1 10^{-10}	3.7 10^{-10}	0.020	1.1 10^{-9}
		M	0.020	5.3 10^{-10}	7.9 10^{-10}	0.002	1.1 10^{-9}
		S	0.002	5.7 10^{-10}	8.4 10^{-10}		
Neptunium							
Np-232	0.245 h	M	5.0 10^{-4}	4.7 10^{-11}	3.5 10^{-11}	5.0 10^{-4}	9.7 10^{-12}
Np-233	0.603 h	M	5.0 10^{-4}	1.7 10^{-12}	3.0 10^{-12}	5.0 10^{-4}	2.2 10^{-12}
Np-234	4.40 d	M	5.0 10^{-4}	5.4 10^{-10}	7.3 10^{-10}	5.0 10^{-4}	8.1 10^{-10}
Np-235	1.08 a	M	5.0 10^{-4}	4.0 10^{-10}	2.7 10^{-10}	5.0 10^{-4}	5.3 10^{-11}
Np-236	1.15 10^{5} a	M	5.0 10^{-4}	3.0 10^{-6}	2.0 10^{-6}	5.0 10^{-4}	1.7 10^{-8}
Np-236	22.5 h	M	5.0 10^{-4}	5.0 10^{-9}	3.6 10^{-9}	5.0 10^{-4}	1.9 10^{-10}
Np-237	2.14 10^{6} a	M	5.0 10^{-4}	2.1 10^{-5}	1.5 10^{-5}	5.0 10^{-4}	1.1 10^{-7}
Np-238	2.12 d	M	5.0 10^{-4}	2.0 10^{-9}	1.7 10^{-9}	5.0 10^{-4}	9.1 10^{-10}
Np-239	2.36 d	M	5.0 10^{-4}	9.0 10^{-10}	1.1 10^{-9}	5.0 10^{-4}	8.0 10^{-10}
Np-240	1.08 h	M	5.0 10^{-4}	8.7 10^{-11}	1.3 10^{-10}	5.0 10^{-4}	8.2 10^{-11}
Plutonium							
Pu-234	8.80 h	M	5.0 10^{-4}	1.9 10^{-8}	1.6 10^{-8}	5.0 10^{-4}	1.6 10^{-10}
		S	1.0 10^{-5}	2.2 10^{-8}	1.8 10^{-8}	1.0 10^{-5}	1.5 10^{-10}
						1.0 10^{-4}	1.6 10^{-10}
Pu-235	0.422 h	M	5.0 10^{-4}	1.5 10^{-12}	2.5 10^{-12}	5.0 10^{-4}	2.1 10^{-12}
		S	1.0 10^{-5}	1.6 10^{-12}	2.6 10^{-12}	1.0 10^{-5}	2.1 10^{-12}
						1.0 10^{-4}	2.1 10^{-12}
Pu-236	2.85 a	M	5.0 10^{-4}	1.8 10^{-5}	1.3 10^{-5}	5.0 10^{-4}	8.6 10^{-8}
		S	1.0 10^{-5}	9.6 10^{-6}	7.4 10^{-6}	1.0 10^{-5}	6.3 10^{-9}
						1.0 10^{-4}	2.1 10^{-8}
Pu-237	45.3 d	M	5.0 10^{-4}	3.3 10^{-10}	2.9 10^{-10}	5.0 10^{-4}	1.0 10^{-10}
		S	1.0 10^{-5}	3.6 10^{-10}	3.0 10^{-10}	1.0 10^{-5}	1.0 10^{-10}
						1.0 10^{-4}	1.0 10^{-10}
Pu-238	87.7 a	M	5.0 10^{-4}	4.3 10^{-5}	3.0 10^{-5}	5.0 10^{-4}	2.3 10^{-7}
		S	1.0 10^{-5}	1.5 10^{-5}	1.1 10^{-5}	1.0 10^{-5}	8.8 10^{-9}
						1.0 10^{-4}	4.9 10^{-8}

TABLE C1 (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for ingested or inhaled radionuclides for exposed workers.

Nuclide	Physical half-life	Inhalation				Ingestion	
		Lung absorption type	f_1	$h(g)_{1\ \mu m}$	$h(g)_{5\ \mu m}$	f_1	$h(g)$
Pu-239	$2.41\ 10^{4}$ a	M	$5.0\ 10^{-4}$	$4.7\ 10^{-5}$	$3.2\ 10^{-5}$	$5.0\ 10^{-4}$	$2.5\ 10^{-7}$
		S	$1.0\ 10^{-5}$	$1.5\ 10^{-5}$	$8.3\ 10^{-6}$	$1.0\ 10^{-5}$	$9.0\ 10^{-9}$
						$1.0\ 10^{-4}$	$5.3\ 10^{-8}$
Pu-240	$6.54\ 10^{3}$ a	M	$5.0\ 10^{-4}$	$4.7\ 10^{-5}$	$3.2\ 10^{-5}$	$5.0\ 10^{-4}$	$2.5\ 10^{-7}$
		S	$1.0\ 10^{-5}$	$1.5\ 10^{-5}$	$8.3\ 10^{-6}$	$1.0\ 10^{-5}$	$9.0\ 10^{-9}$
						$1.0\ 10^{-4}$	$5.3\ 10^{-8}$
Pu-241	14.4 a	M	$5.0\ 10^{-4}$	$8.5\ 10^{-7}$	$5.8\ 10^{-7}$	$5.0\ 10^{-4}$	$4.7\ 10^{-10}$
		S	$1.0\ 10^{-5}$	$1.6\ 10^{-7}$	$8.4\ 10^{-8}$	$1.0\ 10^{-5}$	$1.1\ 10^{-10}$
						$1.0\ 10^{-4}$	$9.6\ 10^{-10}$
Pu-242	$3.76\ 10^{5}$ a	M	$5.0\ 10^{-4}$	$4.4\ 10^{-5}$	$3.1\ 10^{-5}$	$5.0\ 10^{-4}$	$2.4\ 10^{-7}$
		S	$1.0\ 10^{-5}$	$1.4\ 10^{-5}$	$7.7\ 10^{-6}$	$1.0\ 10^{-5}$	$8.6\ 10^{-9}$
						$1.0\ 10^{-4}$	$5.0\ 10^{-8}$
Pu-243	4.95 h	M	$5.0\ 10^{-4}$	$8.2\ 10^{-11}$	$1.1\ 10^{-10}$	$5.0\ 10^{-4}$	$8.5\ 10^{-11}$
		S	$1.0\ 10^{-5}$	$8.5\ 10^{-11}$	$1.1\ 10^{-10}$	$1.0\ 10^{-5}$	$8.5\ 10^{-11}$
						$1.0\ 10^{-4}$	$8.5\ 10^{-11}$
Pu-244	$8.26\ 10^{7}$ a	M	$5.0\ 10^{-4}$	$4.4\ 10^{-5}$	$3.0\ 10^{-5}$	$5.0\ 10^{-4}$	$2.4\ 10^{-7}$
		S	$1.0\ 10^{-5}$	$1.3\ 10^{-5}$	$7.4\ 10^{-6}$	$1.0\ 10^{-5}$	$1.1\ 10^{-8}$
						$1.0\ 10^{-4}$	$5.2\ 10^{-8}$
Pu-245	10.5 h	M	$5.0\ 10^{-4}$	$4.5\ 10^{-10}$	$6.1\ 10^{-10}$	$5.0\ 10^{-4}$	$7.2\ 10^{-10}$
		S	$1.0\ 10^{-5}$	$4.8\ 10^{-10}$	$6.5\ 10^{-10}$	$1.0\ 10^{-5}$	$7.2\ 10^{-10}$
						$1.0\ 10^{-4}$	$7.2\ 10^{-10}$
Pu-246	10.9 d	M	$5.0\ 10^{-4}$	$7.0\ 10^{-9}$	$6.5\ 10^{-9}$	$5.0\ 10^{-4}$	$3.3\ 10^{-9}$
		S	$1.0\ 10^{-5}$	$7.6\ 10^{-9}$	$7.0\ 10^{-9}$	$1.0\ 10^{-5}$	$3.3\ 10^{-9}$
						$1.0\ 10^{-4}$	$3.3\ 10^{-9}$
Americium							
Am-237	1.22 h	M	$5.0\ 10^{-4}$	$2.5\ 10^{-11}$	$3.6\ 10^{-11}$	$5.0\ 10^{-4}$	$1.8\ 10^{-11}$
Am-238	1.63 h	M	$5.0\ 10^{-4}$	$8.5\ 10^{-11}$	$6.6\ 10^{-11}$	$5.0\ 10^{-4}$	$3.2\ 10^{-11}$
Am-239	11.9 h	M	$5.0\ 10^{-4}$	$2.2\ 10^{-10}$	$2.9\ 10^{-10}$	$5.0\ 10^{-4}$	$2.4\ 10^{-10}$
Am-240	2.12 d	M	$5.0\ 10^{-4}$	$4.4\ 10^{-10}$	$5.9\ 10^{-10}$	$5.0\ 10^{-4}$	$5.8\ 10^{-10}$
Am-241	$4.32\ 10^{2}$ a	M	$5.0\ 10^{-4}$	$3.9\ 10^{-5}$	$2.7\ 10^{-5}$	$5.0\ 10^{-4}$	$2.0\ 10^{-7}$
Am-242	16.0 h	M	$5.0\ 10^{-4}$	$1.6\ 10^{-8}$	$1.2\ 10^{-8}$	$5.0\ 10^{-4}$	$3.0\ 10^{-10}$
Am-242m	$1.52\ 10^{2}$ a	M	$5.0\ 10^{-4}$	$3.5\ 10^{-5}$	$2.4\ 10^{-5}$	$5.0\ 10^{-4}$	$1.9\ 10^{-7}$
Am-243	$7.38\ 10^{3}$ a	M	$5.0\ 10^{-4}$	$3.9\ 10^{-5}$	$2.7\ 10^{-5}$	$5.0\ 10^{-4}$	$2.0\ 10^{-7}$
Am-244	10.1 h	M	$5.0\ 10^{-4}$	$1.9\ 10^{-9}$	$1.5\ 10^{-9}$	$5.0\ 10^{-4}$	$4.6\ 10^{-10}$
Am-244m	0.433 h	M	$5.0\ 10^{-4}$	$7.9\ 10^{-11}$	$6.2\ 10^{-11}$	$5.0\ 10^{-4}$	$2.9\ 10^{-11}$
Am-245	2.05 h	M	$5.0\ 10^{-4}$	$5.3\ 10^{-11}$	$7.6\ 10^{-11}$	$5.0\ 10^{-4}$	$6.2\ 10^{-11}$
Am-246	0.650 h	M	$5.0\ 10^{-4}$	$6.8\ 10^{-11}$	$1.1\ 10^{-10}$	$5.0\ 10^{-4}$	$5.8\ 10^{-11}$
Am-246m	0.417 h	M	$5.0\ 10^{-4}$	$2.3\ 10^{-11}$	$3.8\ 10^{-11}$	$5.0\ 10^{-4}$	$3.4\ 10^{-11}$
Curium							
Cm-238	2.40 h	M	$5.0\ 10^{-4}$	$4.1\ 10^{-9}$	$4.8\ 10^{-9}$	$5.0\ 10^{-4}$	$8.0\ 10^{-11}$
Cm-240	27.0 d	M	$5.0\ 10^{-4}$	$2.9\ 10^{-6}$	$2.3\ 10^{-6}$	$5.0\ 10^{-4}$	$7.6\ 10^{-9}$
Cm-241	32.8 d	M	$5.0\ 10^{-4}$	$3.4\ 10^{-8}$	$2.6\ 10^{-8}$	$5.0\ 10^{-4}$	$9.1\ 10^{-10}$
Cm-242	163 d	M	$5.0\ 10^{-4}$	$4.8\ 10^{-6}$	$3.7\ 10^{-6}$	$5.0\ 10^{-4}$	$1.2\ 10^{-8}$
Cm-243	28.5 a	M	$5.0\ 10^{-4}$	$2.9\ 10^{-5}$	$2.0\ 10^{-5}$	$5.0\ 10^{-4}$	$1.5\ 10^{-7}$
Cm-244	18.1 a	M	$5.0\ 10^{-4}$	$2.5\ 10^{-5}$	$1.7\ 10^{-5}$	$5.0\ 10^{-4}$	$1.2\ 10^{-7}$
Cm-245	$8.50\ 10^{3}$ a	M	$5.0\ 10^{-4}$	$4.0\ 10^{-5}$	$2.7\ 10^{-5}$	$5.0\ 10^{-4}$	$2.1\ 10^{-7}$
Cm-246	$4.73\ 10^{3}$ a	M	$5.0\ 10^{-4}$	$4.0\ 10^{-5}$	$2.7\ 10^{-5}$	$5.0\ 10^{-4}$	$2.1\ 10^{-7}$
Cm-247	$1.56\ 10^{7}$ a	M	$5.0\ 10^{-4}$	$3.6\ 10^{-5}$	$2.5\ 10^{-5}$	$5.0\ 10^{-4}$	$1.9\ 10^{-7}$
Cm-248	$3.39\ 10^{5}$ a	M	$5.0\ 10^{-4}$	$1.4\ 10^{-4}$	$9.5\ 10^{-5}$	$5.0\ 10^{-4}$	$7.7\ 10^{-7}$
Cm-249	1.07 h	M	$5.0\ 10^{-4}$	$3.2\ 10^{-11}$	$5.1\ 10^{-11}$	$5.0\ 10^{-4}$	$3.1\ 10^{-11}$
Cm-250	$6.90\ 10^{3}$ a	M	$5.0\ 10^{-4}$	$7.9\ 10^{-4}$	$5.4\ 10^{-4}$	$5.0\ 10^{-4}$	$4.4\ 10^{-6}$
Berkelium							
Bk-245	4.94 d	M	$5.0\ 10^{-4}$	$2.0\ 10^{-9}$	$1.8\ 10^{-9}$	$5.0\ 10^{-4}$	$5.7\ 10^{-10}$
Bk-246	1.83 d	M	$5.0\ 10^{-4}$	$3.4\ 10^{-10}$	$4.6\ 10^{-10}$	$5.0\ 10^{-4}$	$4.8\ 10^{-10}$
Bk-247	$1.38\ 10^{3}$ a	M	$5.0\ 10^{-4}$	$6.5\ 10^{-5}$	$4.5\ 10^{-5}$	$5.0\ 10^{-4}$	$3.5\ 10^{-7}$
Bk-249	320 d	M	$5.0\ 10^{-4}$	$1.5\ 10^{-7}$	$1.0\ 10^{-7}$	$5.0\ 10^{-4}$	$9.7\ 10^{-10}$
Bk-250	3.22 h	M	$5.0\ 10^{-4}$	$9.6\ 10^{-10}$	$7.1\ 10^{-10}$	$5.0\ 10^{-4}$	$1.4\ 10^{-10}$
Californium							
Cf-244	0.323 h	M	$5.0\ 10^{-4}$	$1.3\ 10^{-8}$	$1.8\ 10^{-8}$	$5.0\ 10^{-4}$	$7.0\ 10^{-11}$
Cf-246	1.49 d	M	$5.0\ 10^{-4}$	$4.2\ 10^{-7}$	$3.5\ 10^{-7}$	$5.0\ 10^{-4}$	$3.3\ 10^{-9}$
Cf-248	334 d	M	$5.0\ 10^{-4}$	$8.2\ 10^{-6}$	$6.1\ 10^{-6}$	$5.0\ 10^{-4}$	$2.8\ 10^{-8}$
Cf-249	$3.50\ 10^{2}$ a	M	$5.0\ 10^{-4}$	$6.6\ 10^{-5}$	$4.5\ 10^{-5}$	$5.0\ 10^{-4}$	$3.5\ 10^{-7}$
Cf-250	13.1 a	M	$5.0\ 10^{-4}$	$3.2\ 10^{-5}$	$2.2\ 10^{-5}$	$5.0\ 10^{-4}$	$1.6\ 10^{-7}$
Cf-251	$8.98\ 10^{2}$ a	M	$5.0\ 10^{-4}$	$6.7\ 10^{-5}$	$4.6\ 10^{-5}$	$5.0\ 10^{-4}$	$3.6\ 10^{-7}$

TABLE C1 (continues)

Values of dose conversion factors *h(g)* ($Sv \cdot Bq^{-1}$) for ingested or inhaled radionuclides for exposed workers.

Nuclide	Physical half-life	Inhalation				Ingestion	
		Lung absorption type	f_1	$h(g)_{1\ \mu m}$	$h(g)_{5\ \mu m}$	f_1	$h(g)$
Cf-252	2.64 a	M	$5.0\ 10^{-4}$	$1.8\ 10^{-5}$	$1.3\ 10^{-5}$	$5.0\ 10^{-4}$	$9.0\ 10^{-8}$
Cf-253	17.8 d	M	$5.0\ 10^{-4}$	$1.2\ 10^{-6}$	$1.0\ 10^{-6}$	$5.0\ 10^{-4}$	$1.4\ 10^{-9}$
Cf-254	60.5 d	M	$5.0\ 10^{-4}$	$3.7\ 10^{-5}$	$2.2\ 10^{-5}$	$5.0\ 10^{-4}$	$4.0\ 10^{-7}$
Einsteinium							
Es-250	2.10 h	M	$5.0\ 10^{-4}$	$5.9\ 10^{-10}$	$4.2\ 10^{-10}$	$5.0\ 10^{-4}$	$2.1\ 10^{-11}$
Es-251	1.38 d	M	$5.0\ 10^{-4}$	$2.0\ 10^{-9}$	$1.7\ 10^{-9}$	$5.0\ 10^{-4}$	$1.7\ 10^{-10}$
Es-253	20.5 d	M	$5.0\ 10^{-4}$	$2.5\ 10^{-6}$	$2.1\ 10^{-6}$	$5.0\ 10^{-4}$	$6.1\ 10^{-9}$
Es-254	276 d	M	$5.0\ 10^{-4}$	$8.0\ 10^{-6}$	$6.0\ 10^{-6}$	$5.0\ 10^{-4}$	$2.8\ 10^{-8}$
Es-254m	1.64 d	M	$5.0\ 10^{-4}$	$4.4\ 10^{-7}$	$3.7\ 10^{-7}$	$5.0\ 10^{-4}$	$4.2\ 10^{-9}$
Fermium							
Fm-252	22.7 h	M	$5.0\ 10^{-4}$	$3.0\ 10^{-7}$	$2.6\ 10^{-7}$	$5.0\ 10^{-4}$	$2.7\ 10^{-9}$
Fm-253	3.00 d	M	$5.0\ 10^{-4}$	$3.7\ 10^{-7}$	$3.0\ 10^{-7}$	$5.0\ 10^{-4}$	$9.1\ 10^{-10}$
Fm-254	3.24 h	M	$5.0\ 10^{-4}$	$5.6\ 10^{-8}$	$7.7\ 10^{-8}$	$5.0\ 10^{-4}$	$4.4\ 10^{-10}$
Fm-255	20.1 h	M	$5.0\ 10^{-4}$	$2.5\ 10^{-7}$	$2.6\ 10^{-7}$	$5.0\ 10^{-4}$	$2.5\ 10^{-9}$
Fm-257	101 d	M	$5.0\ 10^{-4}$	$6.6\ 10^{-6}$	$5.2\ 10^{-6}$	$5.0\ 10^{-4}$	$1.5\ 10^{-8}$
Mendelevium							
Md-257	5.20 h	M	$5.0\ 10^{-4}$	$2.3\ 10^{-8}$	$2.0\ 10^{-8}$	$5.0\ 10^{-4}$	$1.2\ 10^{-10}$
Md-258	55.0 d	M	$5.0\ 10^{-4}$	$5.5\ 10^{-6}$	$4.4\ 10^{-6}$	$5.0\ 10^{-4}$	$1.3\ 10^{-8}$

TABLE C2

Values of dose conversion factors *h(g)* ($Sv \cdot Bq^{-1}$) for inhaled soluble or reactive gases and vapours for exposed workers.

Nuclide/chemical form	Physical half-life	*h(g)*
Hydrogen		
Tritium gas	12.3 a	$1.8\ 10^{-15}$
Tritiated water	12.3 a	$1.8\ 10^{-11}$
Organically bound tritium	12.3 a	$4.1\ 10^{-11}$
Carbon		
Carbon-11 vapour	0.34 h	$3.2\ 10^{-12}$
Carbon-11 dioxide	0.34 h	$2.2\ 10^{-12}$
Carbon-11 monoxide	0.34 h	$1.2\ 10^{-12}$
Carbon-14 vapour	$5.73\ 10^{3}$ a	$5.8\ 10^{-10}$
Carbon-14 dioxide	$5.73\ 10^{3}$ a	$6.5\ 10^{-12}$
Carbon-14 monoxide	$5.73\ 10^{3}$ a	$8.0\ 10^{-13}$
Sulphur		
Sulphur-35 vapour	87.4 d	$1.2\ 10^{-10}$
Nickel		
Nickel-56 carbonyl	6.10 d	$1.2\ 10^{-9}$
Nickel-57 carbonyl	1.50 d	$5.6\ 10^{-10}$
Nickel-59 carbonyl	$7.50\ 10^{4}$ a	$8.3\ 10^{-10}$
Nickel-63 carbonyl	96.0 a	$2.0\ 10^{-9}$
Nickel-65 carbonyl	2.52 h	$3.6\ 10^{-10}$
Nickel-66 carbonyl	2.27 d	$1.6\ 10^{-9}$
Iodine		
Iodine-120 vapour	1.35 h	$3.0\ 10^{-10}$
Iodine-120m vapour	0.88 h	$1.8\ 10^{-10}$
Iodine-121 vapour	2.12 h	$8.6\ 10^{-11}$
Iodine-123 vapour	13.2 h	$2.1\ 10^{-10}$
Iodine-124 vapour	4.18 d	$1.2\ 10^{-8}$
Iodine-125 vapour	60.1 d	$1.4\ 10^{-8}$
Iodine-126 vapour	13.0 d	$2.6\ 10^{-8}$
Iodine-128 vapour	0.42 h	$6.5\ 10^{-11}$
Iodine-129 vapour	$1.57\ 10^{7}$ a	$9.6\ 10^{-8}$
Iodine-130 vapour	12.4 h	$1.9\ 10^{-9}$
Iodine-131 vapour	8.04 d	$2.0\ 10^{-8}$
Iodine-132 vapour	2.30 h	$3.1\ 10^{-10}$
Iodine-132m vapour	1.39 h	$2.7\ 10^{-10}$
Iodine-133 vapour	20.8 h	$4.0\ 10^{-9}$
Iodine-134 vapour	0.88 h	$1.5\ 10^{-10}$
Iodine-135 vapour	6.61 h	$9.2\ 10^{-10}$
Mercury		
Mercury-193 vapour	3.50 h	$1.1\ 10^{-9}$
Mercury-193m vapour	11.1 h	$3.1\ 10^{-9}$
Mercury-194 vapour	$2.60\ 10^{2}$ a	$4.0\ 10^{-8}$
Mercury-195 vapour	9.90 h	$1.4\ 10^{-9}$
Mercury-195m vapour	1.73 d	$8.2\ 10^{-9}$
Mercury-197 vapour	2.67 d	$4.4\ 10^{-9}$
Mercury-197m vapour	23.8 h	$5.8\ 10^{-9}$
Mercury-199m vapour	0.71 h	$1.8\ 10^{-10}$
Mercury-203 vapour	46.60 d	$7.0\ 10^{-9}$

TABLE D

Values of f_1 transfer factors by element and compound, for ingested substances for exposed workers. The factors may also be applied to members of the public.

Element	f_1	Compounds
Hydrogen	1.000 1.000	Ingestion of tritiated water Organically bound tritium
Beryllium	0.005	All compounds
Carbon	1.000	Labelled organic compounds
Fluorine	1.000	All compounds
Sodium	1.000	All compounds
Magnesium	0.500	All compounds
Aluminium	0.010	All compounds
Silicon	0.010	All compounds
Phosphorus	0.800	All compounds
Sulphur	0.800 0.100 1.000	Inorganic compounds Elemental sulphur Organic sulphur
Chlorine	1.000	All compounds
Potassium	1.000	All compounds
Calcium	0.300	All compounds
Scandium	$1.0\ 10^{-4}$	All compounds
Titanium	0.010	All compounds
Vanadium	0.010	All compounds
Chromium	0.100 0.010	Hexavalent compounds Trivalent compounds
Manganese	0.100	All compounds
Iron	0.100	All compounds
Cobalt	0.100 0.050	Unspecified compounds Oxides, hydroxides and inorganic compounds
Nickel	0.050	All compounds
Copper	0.500	All compounds
Zinc	0.500	All compounds
Gallium	0.001	All compounds
Germanium	1.000	All compounds
Arsenic	0.500	All compounds
Selenium	0.800 0.050	Unspecified compounds Elemental selenium and selenides
Bromine	1.000	All compounds
Rubidium	1.000	All compounds
Strontium	0.300 0.010	Unspecified compounds Strontium titanate ($SrTiO_3$)
Yttrium	$1.0\ 10^{-4}$	All compounds

TABLE D (continues)

Values of f_1 transfer factors by element and compound, for ingested substances for exposed workers. The factors may also be applied to members of the public.

Element	f_1	Compounds
Zirconium	0.002	All compounds
Niobium	0.010	All compounds
Molybdenum	0.800 0.050	Unspecified compounds Molybdenum sulfide
Technetium	0.800	All compounds
Ruthenium	0.050	All compounds
Rhodium	0.050	All compounds
Palladium	0.005	All compounds
Silver	0.050	All compounds
Cadmium	0.050	All inorganic compounds
Indium	0.020	All compounds
Tin	0.020	All compounds
Antimony	0.100	All compounds
Tellurium	0.300	All compounds
Iodine	1.000	All compounds
Caesium	1.000	All compounds
Barium	0.100	All compounds
Lanthanum	$5.0\ 10^{-4}$	All compounds
Cerium	$5.0\ 10^{-4}$	All compounds
Praseodymium	$5.0\ 10^{-4}$	All compounds
Neodymium	$5.0\ 10^{-4}$	All compounds
Promethium	$5.0\ 10^{-4}$	All compounds
Samarium	$5.0\ 10^{-4}$	All compounds
Europium	$5.0\ 10^{-4}$	All compounds
Gadolinium	$5.0\ 10^{-4}$	All compounds
Terbium	$5.0\ 10^{-4}$	All compounds
Dysprosium	$5.0\ 10^{-4}$	All compounds
Holmium	$5.0\ 10^{-4}$	All compounds
Erbium	$5.0\ 10^{-4}$	All compounds
Thulium	$5.0\ 10^{-4}$	All compounds
Ytterbium	$5.0\ 10^{-4}$	All compounds
Lutetium	$5.0\ 10^{-4}$	All compounds
Hafnium	0.002	All compounds
Tantalum	0.001	All compounds
Tungsten	0.300 0.010	Unspecified compounds Tungstic acid

TABLE D (continues)

Values of f_1 transfer factors by element and compound, for ingested substances for exposed workers. The factors may also be applied to members of the public.

Element	f_1	Compounds
Rhenium	0.800	All compounds
Osmium	0.010	All compounds
Iridium	0.010	All compounds
Platinum	0.010	All compounds
Gold	0.100	All compounds
Mercury	0.020	All inorganic compounds
Mercury	1.000 0.400	Methyl mercury All unspecified organic compounds
Thallium	1.000	All compounds
Lead	0.200	All compounds
Bismuth	0.050	All compounds
Polonium	0.100	All compounds
Astatine	1.000	All compounds
Francium	1.000	All compounds
Radium	0.200	All compounds
Actinium	$5.0\ 10^{-4}$	All compounds
Thorium	$5.0\ 10^{-4}$ $2.0\ 10^{-4}$	Unspecified compounds Oxides and hydroxides
Protactinium	$5.0\ 10^{-4}$	All compounds
Uranium	0.020 0.002	Unspecified compounds Most tetravalent compounds, e.g. UO_2, U_3O_8, UF_4
Neptunium	$5.0\ 10^{-4}$	All compounds
Plutonium	$5.0\ 10^{-4}$ $1.0\ 10^{-4}$ $1.0\ 10^{-4}$	Unspecified compounds Nitrates Insoluble oxides
Americium	$5.0\ 10^{-4}$	All compounds
Curium	$5.0\ 10^{-4}$	All compounds
Berkelium	$5.0\ 10^{-4}$	All compounds
Californium	$5.0\ 10^{-4}$	All compounds
Einsteinium	$5.0\ 10^{-4}$	All compounds
Fermium	$5.0\ 10^{-4}$	All compounds
Mendelevium	$5.0\ 10^{-4}$	All compounds

TABLE E

The lung absorption types and the values of f_1 transfer factors by element and compound, for inhaled substances for exposed workers.

Element	Lung absorption type	f_1	Compounds
Beryllium	M	0.005	Unspecified compounds
	S	0.005	Oxides, halides and nitrates
Fluorine	F	1.000	Determined by combining cation
	M	1.000	Determined by combining cation
	S	1.000	Determined by combining cation
Sodium	F	1.000	All compounds
Magnesium	F	0.500	Unspecified compounds
	M	0.500	Oxides, hydroxides, carbides, halides and nitrates
Aluminium	F	0.010	Unspecified compounds
	M	0.010	Oxides, hydroxides, carbides, halides, nitrates and metallic aluminium
Silicon	F	0.010	Unspecified compounds
	M	0.010	Oxides, hydroxides, carbides and nitrates
	S	0.010	Aluminosilicate glass aerosol
Phosphorus	F	0.800	Unspecified compounds
	M	0.800	Some phosphates: determined by combining cation
Sulphur	F	0.800	Sulphides and sulphates: determined by combining cation
	M	0.800	Elemental sulphur. Sulphides and sulphates: determined by combining cation
Clorine	F	1.000	Determined by combining cation
	M	1.000	Determined by combining cation
Potassium	F	1.000	All compounds
Calcium	M	0.300	All compounds
Scandium	S	$1.0\ 10^{-4}$	All compounds
Titanium	F	0.010	Unspecified compounds
	M	0.010	Oxides, hydroxides, halides, nitrates and carbides
	S	0.010	Strontium titanate ($SrTiO_3$)
Vanadinium	F	0.010	Unspecified compounds
	M	0.010	Oxides, hydroxides, carbides and halides
Cromium	F	0.100	Unspecified compounds
	M	0.100	Halides and nitrates
	S	0.100	Oxides and hydroxides
Manganese	F	0.100	Unspecified compounds
	M	0.100	Oxides, hydroxides, halides and nitrates
Iron	F	0.100	Unspecified compounds
	M	0.100	Oxides, hydroxides and halides
Cobalt	M	0.100	Unspecified compounds
	S	0.050	Oxides, hydroxides, halides and nitrates
Nickel	F	0.050	Unspecified compounds
	M	0.050	Oxides, hydroxides and carbides
Copper	F	0.500	Unspecified inorganic compounds
	M	0.500	Sulphides, halides and nitrates
	S	0.500	Oxides and hydroxides
Zinc	S	0.500	All compounds
Gallium	F	0.001	Unspecified compounds
	M	0.001	Oxides, hydroxides, carbides, halides and nitrates

TABLE E (continues)

The lung absorption types and the values of f_1 transfer factors by element and compound, for inhaled substances for exposed workers.

Element	Lung absorption type	f_1	Compounds
Germanium	F	1.000	Unspecified compounds
	M	1.000	Oxides, sulphides and halides
Arsenic	M	0.500	All compounds
Selenium	F	0.800	Unspecified inorganic compounds
	M	0.800	Elemental selenium, oxides, hydroxides and carbides
Bromine	F	1.000	Determined by combining cation
	M	1.000	Determined by combining cation
Rubidium	F	1.000	All compounds
Strontium	F	0.300	Unspecified compounds
	S	0.010	Strontium titanate ($SrTiO_3$)
Yttrium	M	$1.0\ 10^{-4}$	Unspecified compounds
	S	$1.0\ 10^{-4}$	Oxides and hydroxides
Zirkonium	F	0.002	Unspecified compounds
	M	0.002	Oxides, hydroxides, halides and nitrates
	S	0.002	Zirkonium carbide
Niobium	M	0.010	Unspecified compounds
	S	0.010	Oxides and hydroxides
Molybdenum	F	0.800	Unspecified compounds
	S	0.050	Molybdenum sulphide, oxides and hydroxides
Tecnetium	F	0.800	Unspecified compounds
	M	0.800	Oxides, hydroxides, halides and nitrates
Ruthenium	F	0.050	Unspecified compounds
	M	0.050	Halides
	S	0.050	Oxides and hydroxides
Rhodium	F	0.050	Unspecified compounds
	M	0.050	Halides
	S	0.050	Oxides and hydroxides
Palladium	F	0.005	Unspecified compounds
	M	0.005	Nitrates and halides
	S	0.005	Oxides and hydroxides
Silver	F	0.050	Unspecified compounds and metallic silver
	M	0.050	Nitrates and sulphides
	S	0.050	Oxides and hydroxides, carbides
Cadmium	F	0.050	Unspecified compounds
	M	0.050	Sulphides, halides and nitrates
	S	0.050	Oxides and hydroxides
Indium	F	0.020	Unspecified compounds
	M	0.020	Oxides, hydroxides, halides and nitrates
Tin	F	0.020	Unspecified compounds
	M	0.020	Stannic phosphate, sulphides, oxides, hydroxides, halides and nitrates
Antimony	F	0.100	Unspecified compounds
	M	0.010	Oxides, hydroxides, halides, sulphides and nitrates
Tellurium	F	0.300	Unspecified compounds
	M	0.300	Oxides, hydroxides and nitrates
Iodine	F	1.000	All compounds

TABLE E (continues)

The lung absorption types and the values of f_1 transfer factors by element and compound, for inhaled substances for exposed workers.

Element	Lung absorption type	f_1	Compounds
Caesium	F	1.000	All compounds
Barium	F	0.100	All compounds
Lanthanum	F M	$5.0\ 10^{-4}$ $5.0\ 10^{-4}$	Unspecified compounds Oxides and hydroxides
Cerium	M S	$5.0\ 10^{-4}$ $5.0\ 10^{-4}$	Unspecified compounds Oxides, hydroxides and fluorides
Praseodymium	M S	$5.0\ 10^{-4}$ $5.0\ 10^{-4}$	Unspecified compounds Oxides, hydroxides, carbides and fluorides
Neodymium	M S	$5.0\ 10^{-4}$ $5.0\ 10^{-4}$	Unspecified compounds Oxides, hydroxides, carbides and fluorides
Promethium	M S	$5.0\ 10^{-4}$ $5.0\ 10^{-4}$	Unspecified compounds Oxides, hydroxides, carbides and fluorides
Samarium	M	$5.0\ 10^{-4}$	All compounds
Europium	M	$5.0\ 10^{-4}$	All compounds
Gadolinium	F M	$5.0\ 10^{-4}$ $5.0\ 10^{-4}$	Unspecified compounds Oxides, hydroxides and fluorides
Terbium	M	$5.0\ 10^{-4}$	All compounds
Dysprosium	M	$5.0\ 10^{-4}$	All compounds
Holmium	M	$5.0\ 10^{-4}$	Unspecified compounds
Erbium	M	$5.0\ 10^{-4}$	All compounds
Thulium	M	$5.0\ 10^{-4}$	All compounds
Ytterbium	M S	$5.0\ 10^{-4}$ $5.0\ 10^{-4}$	Unspecified compounds Oxides, hydroxides and fluorides
Lutetium	M S	$5.0\ 10^{-4}$ $5.0\ 10^{-4}$	Unspecified compounds Oxides, hydroxides and fluorides
Hafnium	F M	0.002 0.002	Unspecified compounds Oxides, hydroxides, halides, carbides and nitrates
Tantalum	M S	0.001 0.001	Unspecified compounds Elemental tantalum, oxides, hydroxides, halides, carbides, nitrides and nitrates
Tungsten	F	0.300	All compounds
Rhenium	F M	0.800 0.800	Unspecified compounds Oxides, hydroxides, halides and nitrates
Osmium	F M S	0.010 0.010 0.010	Unspecified compounds Halides and nitrates Oxides and hydroxides
Iridium	F M S	0.010 0.010 0.010	Unspecified compounds Metallic iridium, halides and nitrates Oxides and hydroxides
Platinum	F	0.010	All compounds
Gold	F M S	0.100 0.100 0.100	Unspecified compounds Halides and nitrates Oxides and hydroxides

TABLE E (continues)

The lung absorption types and the values of f_1 transfer factors by element and compound, for inhaled substances for exposed workers.

Element	Lung absorption type	f_1	Compounds
Mercury	F	0.020	Sulphates
	M	0.020	Oxides, hydroxides, halides, nitrates and sulphides
Mercury	F	0.400	All organic compounds
Thallium	F	1.000	All compounds
Lead	F	0.200	All compounds
Bismuth	F	0.050	Bismuth nitrate
	M	0.050	Unspecified compounds
Polonium	F	0.100	Unspecified compounds
	M	0.100	Oxides, hydroxides and nitrates
Astatine	F	1.000	Determined by combining cation
	M	1.000	Determined by combining cation
Francium	F	1.000	All compounds
Radium	M	0.200	All compounds
Actinium	F	$5.0\ 10^{-4}$	Unspecified compounds
	M	$5.0\ 10^{-4}$	Halides and nitrates
	S	$5.0\ 10^{-4}$	Oxides and hydroxides
Thorium	M	$5.0\ 10^{-4}$	Unspecified compounds
	S	$2.0\ 10^{-4}$	Oxides and hydroxides
Protactinium	M	$5.0\ 10^{-4}$	Unspecified compounds
	S	$5.0\ 10^{-4}$	Oxides and hydroxides
Uranium	F	0.020	Most hexavalent compounds, e.g. UF_6, UO_2F_2 and $UO_2(NO_3)_2$
	M	0.020	Less soluble compounds, e.g. UO_3, UF_4, UCl_4 and most other hexavalent compounds
	S	0.002	Highly insoluble compounds, e.g. UO_2 and U_3O_8
Neptunium	M	$5.0\ 10^{-4}$	All compounds
Plutonium	M	$5.0\ 10^{-4}$	Unspecified compounds
	S	$1.0\ 10^{-5}$	Insoluble oxides
Americium	M	$5.0\ 10^{-4}$	All compounds
Curium	M	$5.0\ 10^{-4}$	All compounds
Berkelium	M	$5.0\ 10^{-4}$	All compounds
Californium	M	$5.0\ 10^{-4}$	All compounds
Einsteinium	M	$5.0\ 10^{-4}$	All compounds
Fermium	M	$5.0\ 10^{-4}$	All compounds
Mendelevium	M	$5.0\ 10^{-4}$	All compounds

TABLE F

Literature references to lung absorption types for inhaled elements and compounds for members of the public.

Element	Absorption types	ICRP Publication number for details of biokinetic model and absorption type
Hydrogen	F [1], M [2], [3], S [4], G [5]	Publications 56, 67 and 71
Beryllium	M, S	Publication 30, Part 3
Carbon	F, M [3], S, G	Publications 56, 67 and 71
Fluorine	F, M, S	Publication 30, Part 2
Sodium	F	Publication 30, Part 2
Magnesium	F, M	Publication 30, Part 3
Aluminium	F, M	Publication 30, Part 3
Silicon	F, M, S	Publication 30, Part 3
Phosphorus	F, M	Publication 30, Part 1
Sulphur	F, M [3], S, G	Publications 67 and 71
Chlorine	F, M	Publication 30, Part 2
Potassium	F	Publication 30, Part 2
Calcium	F, M, S	Publication 71
Scandium	S	Publication 30, Part 3
Titanium	F, M, S	Publication 30, Part 3
Vanadinium	F, M	Publication 30, Part 3
Chromium	F, M, S	Publication 30, Part 2
Manganese	F, M	Publication 30, Part 1
Iron	F, M [3], S	Publications 69 and 71
Cobalt	F, M [3], S	Publications 67 and 71
Nickel	F, M [3], S, G	Publications 67 and 71
Copper	F, M, S	Publication 30, Part 2
Zinc	F, M [3], S	Publications 67 and 71
Gallium	F, M	Publication 30, Part 3
Germanium	F, M	Publication 30, Part 3
Arsenic	M	Publication 30, Part 3
Selenium	F [3], M, S	Publications 69 and 71
Bromine	F, M	Publication 30, Part 2
Rubidium	F	Publication 30, Part 2
Strontium	F, M [3], S	Publications 67 and 71

1) Type F: fast absorption from the lungs.
2) Type M: moderate absorption from the lungs.
3) Recommended default absorption type for particulate aerosol when no specific information is available (see ICRP Publication no.71).
4) Type S: slow absorption from the lungs.
5) Type G: gases and vapours.

TABLE F (continues)
Literature references to lung absorption types for inhaled elements and compounds for members of the public.

Element	Absorption types	ICRP Publication number for details of biokinetic model and absorption type
Yttrium	M, S	Publication 30, Part 2
Zirconium	F, M [6)], S	Publications 56, 67 and 71
Niobium	F, M [6)], S	Publications 56, 67 and 71
Molybdenum	F, M [6)], S	Publications 67 and 71
Technetium	F, M [6)], S	Publications 67 and 71
Ruthenium	F, M [6)], S, G	Publications 56, 67 and 71
Rhodium	F, M, S	Publication 30, Part 2
Palladium	F, M, S	Publication 30, Part 3
Silver	F, M [6)], S	Publications 67 and 71
Cadmium	F, M, S	Publication 30, Part 2
Indium	F, M	Publication 30, Part 2
Tin	F, M	Publication 30, Part 3
Antimony	F, M [6)], S	Publications 69 and 71
Tellurium	F, M [6)], S, G	Publications 67 and 71
Iodine	F [6)], M, S, G	Publications 56, 67 and 71
Caesium	F [6)], M, S	Publications 56, 67 and 71
Barium	F, M [6)], S	Publications 67 and 71
Lanthanum	F, M	Publication 30, Part 3
Cerium	F, M [6)], S	Publications 56, 67 and 71
Praseodymium	M, S	Publication 30, Part 3
Neodymium	M, S	Publication 30, Part 3
Promethium	M, S	Publication 30, Part 3
Samarium	M	Publication 30, Part 3
Europium	M	Publication 30, Part 3
Gadolinium	F, M	Publication 30, Part 3
Terbium	M	Publication 30, Part 3
Dysprosium	M	Publication 30, Part 3
Holmium	M	Publication 30, Part 3
Erbium	M	Publication 30, Part 3
Thulium	M	Publication 30, Part 3
Ytterbium	M, S	Publication 30, Part 3
Lutetium	M, S	Publication 30, Part 3
Hafnium	F, M	Publication 30, Part 3

[6)] Recommended default absorption type for particulate aerosol when no specific information is available (see ICRP Publication no.71).

TABLE F (continues)
Literature references to lung absorption types for inhaled elements and compounds for members of the public.

Element	Absorption types	ICRP Publication number for details of biokinetic model and absorption type
Tantalum	M, S	Publication 30, Part 3
Tungsten	F	Publication 30, Part 3
Rhenium	F, M	Publication 30, Part 2
Osmium	F, M, S	Publication 30, Part 2
Iridium	F, M, S	Publication 30, Part 2
Platinum	F	Publication 30, Part 3
Gold	F, M, S	Publication 30, Part 2
Mercury	F, M, G	Publication 30, Part 2
Thallium	F	Publication 30, Part 3
Lead	F, M [7)], S, G	Publications 67 and 71
Bismuth	F, M	Publication 30, Part 2
Polonium	F, M [7)], S, G	Publications 67 and 71
Astatine	F, M	Publication 30, Part 3
Francium	F	Publication 30, Part 3
Radium	F, M [7)], S	Publications 67 and 71
Actinium	F, M, S	Publication 30, Part 3
Thorium	F, M, S [7)]	Publications 69 and 71
Protactinium	M, S	Publication 30, Part 3
Uranium	F, M [7)], S	Publications 69 and 71
Neptunium	F, M [7)], S	Publications 67 and 71
Plutonium	F, M [7)], S	Publications 67 and 71
Americium	F, M [7)], S	Publications 67 and 71
Curium	F, M [7)], S	Publication 71
Berkelium	M	Publication 30, Part 4
Californium	M	Publication 30, Part 4
Einsteinium	M	Publication 30, Part 4
Fermium	M	Publication 30, Part 4
Mendelevium	M	Publication 30, Part 4

[7)] Recommended default absorption type for particulate aerosol when no specific information is available (see ICRP Publication no.71).

TABLE G

Values of dose conversion factors *h(g)* ($Sv \cdot Bq^{-1}$) for inhaled soluble or reactive gases and vapours for members of the public.

Nuclide	Physical half-life	Lung absorption type	% deposit	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
				f_1 for g ≤ 1 a	*h(g)*	f_1 for g > 1 a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)* [1]
Hydrogen											
Tritiated water	12.3 a	V [2]	100	1.000	$6.4\ 10^{-11}$	1.000	$4.8\ 10^{-11}$	$3.1\ 10^{-11}$	$2.3\ 10^{-11}$	$1.8\ 10^{-11}$	$1.8\ 10^{-11}$
Elemental hydrogen	12.3 a	V	0.01	1.000	$6.4\ 10^{-15}$	1.000	$4.8\ 10^{-15}$	$3.1\ 10^{-15}$	$2.3\ 10^{-15}$	$1.8\ 10^{-15}$	$1.8\ 10^{-15}$
Tritiated methane	12.3 a	V	1	1.000	$6.4\ 10^{-13}$	1.000	$4.8\ 10^{-13}$	$3.1\ 10^{-13}$	$2.3\ 10^{-13}$	$1.8\ 10^{-13}$	$1.8\ 10^{-13}$
Organically bound tritium	12.3 a	V	100	1.000	$1.1\ 10^{-10}$	1.000	$1.1\ 10^{-10}$	$7.0\ 10^{-11}$	$5.5\ 10^{-11}$	$4.1\ 10^{-11}$	$4.1\ 10^{-11}$
Carbon											
Carbon-11 vapour	0.340 h	V	100	1.000	$2.8\ 10^{-11}$	1.000	$1.8\ 10^{-11}$	$9.7\ 10^{-12}$	$6.1\ 10^{-12}$	$3.8\ 10^{-12}$	$3.2\ 10^{-12}$
Carbon-11 dioxide	0.340 h	V	100	1.000	$1.8\ 10^{-11}$	1.000	$1.2\ 10^{-11}$	$6.5\ 10^{-12}$	$4.1\ 10^{-12}$	$2.5\ 10^{-12}$	$2.2\ 10^{-12}$
Carbon-11 monoxide	0.340 h	V	40	1.000	$1.0\ 10^{-11}$	1.000	$6.7\ 10^{-12}$	$3.5\ 10^{-12}$	$2.2\ 10^{-12}$	$1.4\ 10^{-12}$	$1.2\ 10^{-12}$
Carbon-14 vapour	$5.73\ 10^{3}$ a	V	100	1.000	$1.3\ 10^{-9}$	1.000	$1.6\ 10^{-9}$	$9.7\ 10^{-10}$	$7.9\ 10^{-10}$	$5.7\ 10^{-10}$	$5.8\ 10^{-10}$
Carbon-14 dioxide	$5.73\ 10^{3}$ a	V	100	1.000	$1.9\ 10^{-11}$	1.000	$1.9\ 10^{-11}$	$1.1\ 10^{-11}$	$8.9\ 10^{-12}$	$6.3\ 10^{-12}$	$6.2\ 10^{-12}$
Carbon-14 monoxide	$5.73\ 10^{3}$ a	V	40	1.000	$9.1\ 10^{-12}$	1.000	$5.7\ 10^{-12}$	$2.8\ 10^{-12}$	$1.7\ 10^{-12}$	$9.9\ 10^{-13}$	$8.0\ 10^{-13}$
Sulphur											
Carbon disulphide-35	87.4 d	F [3]	100	1.000	$6.9\ 10^{-9}$	0.800	$4.8\ 10^{-9}$	$2.4\ 10^{-9}$	$1.4\ 10^{-9}$	$8.6\ 10^{-10}$	$7.0\ 10^{-10}$
Sulphur-35 dioxide	87.4 d	F	85	1.000	$9.4\ 10^{-10}$	0.800	$6.6\ 10^{-10}$	$3.4\ 10^{-10}$	$2.1\ 10^{-10}$	$1.3\ 10^{-10}$	$1.1\ 10^{-10}$
Nickel											
Nickel-56 carbonyl	6.10 d	- [4]	100	1.000	$6.8\ 10^{-9}$	1.000	$5.2\ 10^{-9}$	$3.2\ 10^{-9}$	$2.1\ 10^{-9}$	$1.4\ 10^{-9}$	$1.2\ 10^{-9}$
Nickel-57 carbonyl	1.50 d	- [4]	100	1.000	$3.1\ 10^{-9}$	1.000	$2.3\ 10^{-9}$	$1.4\ 10^{-9}$	$9.2\ 10^{-10}$	$6.5\ 10^{-10}$	$5.6\ 10^{-10}$
Nickel-59 carbonyl	$7.50\ 10^{4}$ a	- [4]	100	1.000	$4.0\ 10^{-9}$	1.000	$3.3\ 10^{-9}$	$2.0\ 10^{-9}$	$1.3\ 10^{-9}$	$9.1\ 10^{-10}$	$8.3\ 10^{-10}$
Nickel-63 carbonyl	96.0 a	- [4]	100	1.000	$9.5\ 10^{-9}$	1.000	$8.0\ 10^{-9}$	$4.8\ 10^{-9}$	$3.0\ 10^{-9}$	$2.2\ 10^{-9}$	$2.0\ 10^{-9}$
Nickel-65 carbonyl	2.52 h	- [4]	100	1.000	$2.0\ 10^{-9}$	1.000	$1.4\ 10^{-9}$	$8.1\ 10^{-10}$	$5.6\ 10^{-10}$	$4.0\ 10^{-10}$	$3.6\ 10^{-10}$
Nickel-66 carbonyl	2.27 d	- [4]	100	1.000	$1.0\ 10^{-8}$	1.000	$7.1\ 10^{-9}$	$4.0\ 10^{-9}$	$2.7\ 10^{-9}$	$1.8\ 10^{-9}$	$1.6\ 10^{-9}$
Ruthenium											
Ruthenium-94 tetroxide	0.863 h	F	100	0.100	$5.5\ 10^{-10}$	0.050	$3.5\ 10^{-10}$	$1.8\ 10^{-10}$	$1.1\ 10^{-10}$	$7.0\ 10^{-11}$	$5.6\ 10^{-11}$
Ruthenium-97 tetroxide	2.90 d	F	100	0.100	$8.7\ 10^{-10}$	0.050	$6.2\ 10^{-10}$	$3.4\ 10^{-10}$	$2.2\ 10^{-10}$	$1.4\ 10^{-10}$	$1.2\ 01^{-10}$
Ruthenium-103 tetroxide	39.3 d	F	100	0.100	$9.0\ 10^{-9}$	0.050	$6.2\ 10^{-9}$	$3.3\ 10^{-9}$	$2.1\ 10^{-9}$	$1.3\ 10^{-9}$	$1.1\ 10^{-9}$
Ruthenium-105 tetroxide	4.44 h	F	100	0.100	$1.6\ 10^{-9}$	0.050	$1.0\ 10^{-9}$	$5.3\ 10^{-10}$	$3.2\ 10^{-10}$	$2.2\ 10^{-10}$	$1.8\ 10^{-10}$
Ruthenium-106 tetroxide	1.01 a	F	100	0.100	$1.6\ 10^{-7}$	0.050	$1.1\ 10^{-7}$	$6.1\ 10^{-8}$	$3.7\ 10^{-8}$	$2.2\ 10^{-8}$	$1.8\ 10^{-8}$
Tellurium											
Tellurium-116 vapour	2.49 h	F	100	0.600	$5.9\ 10^{-10}$	0.300	$4.4\ 10^{-10}$	$2.5\ 10^{-10}$	$1.6\ 10^{-10}$	$1.1\ 10^{-10}$	$8.7\ 10^{-11}$
Tellurium-121 vapour	17.0 d	F	100	0.600	$3.0\ 10^{-9}$	0.300	$2.4\ 10^{-9}$	$1.4\ 10^{-9}$	$9.6\ 10^{-10}$	$6.7\ 10^{-10}$	$5.1\ 10^{-10}$
Tellurium-121m vapour	154 d	F	100	0.600	$3.5\ 10^{-8}$	0.300	$2.7\ 10^{-8}$	$1.6\ 10^{-8}$	$9.8\ 10^{-9}$	$6.6\ 10^{-9}$	$5.5\ 10^{-9}$

1) Applicable to both workers and adult members of the public.

2) Type V: very fast absorption from the lungs.

3) Type F: fast absorption from the lungs.

4) See ICRP Publication no. 71, section 5.7.

TABLE G (continues)

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for inhaled soluble or reactive gases and vapours for members of the public.

Nuclide	Physical half-life	Lung absorption type	% deposit	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
				f_1 for g ≤ 1 a	*h(g)*	f_1 for g > 1 a	*h(g)*	*h(g)*	*h(g)*	*h(g)*	*h(g)* [5]
Tellurium-123 vapour	1.00 10^{13} a	F	100	0.600	2.8 10^{-8}	0.300	2.5 10^{-8}	1.9 10^{-8}	1.5 10^{-8}	1.3 10^{-8}	1.2 10^{-8}
Tellurium-123m vapour	120 d	F	100	0.600	2.5 10^{-8}	0.300	1.8 10^{-8}	1.0 10^{-8}	5.7 10^{-9}	3.5 10^{-9}	2.9 10^{-9}
Tellurium-125m vapour	58.0 d	F	100	0.600	1.5 10^{-8}	0.300	1.1 10^{-8}	5.9 10^{-9}	3.2 10^{-9}	1.9 10^{-9}	1.5 10^{-9}
Tellurium-127 vapour	9.35 h	F	100	0.600	6.1 10^{-10}	0.300	4.4 10^{-10}	2.3 10^{-10}	1.4 10^{-10}	9.2 10^{-11}	7.7 10^{-11}
Tellurium-127m vapour	109 d	F	100	0.600	5.3 10^{-8}	0.300	3.7 10^{-8}	1.9 10^{-8}	1.0 10^{-8}	6.1 10^{-9}	4.6 10^{-9}
Tellurium-129 vapour	1.16 h	F	100	0.600	2.5 10^{-10}	0.300	1.7 10^{-10}	9.4 10^{-11}	6.2 10^{-11}	4.3 10^{-11}	3.7 10^{-11}
Tellurium-129m vapour	33.6 d	F	100	0.600	4.8 10^{-8}	0.300	3.2 10^{-8}	1.6 10^{-8}	8.5 10^{-9}	5.1 10^{-9}	3.7 10^{-9}
Tellurium-131 vapour	0.417 h	F	100	0.600	5.1 10^{-10}	0.300	4.5 10^{-10}	2.6 10^{-10}	1.4 10^{-10}	9.5 10^{-11}	6.8 10^{-11}
Tellurium-131m vapour	1.25 d	F	100	0.600	2.1 10^{-8}	0.300	1.9 10^{-8}	1.1 10^{-8}	5.6 10^{-9}	3.7 10^{-9}	2.4 10^{-9}
Tellurium-132 vapour	3.26 d	F	100	0.600	5.4 10^{-8}	0.300	4.5 10^{-8}	2.4 10^{-8}	1.2 10^{-8}	7.6 10^{-9}	5.1 10^{-9}
Tellurium-133 vapour	0.207 h	F	100	0.600	5.5 10^{-10}	0.300	4.7 10^{-10}	2.5 10^{-10}	1.2 10^{-10}	8.1 10^{-11}	5.6 10^{-11}
Tellurium-133m vapour	0.923 h	F	100	0.600	2.3 10^{-9}	0.300	2.0 10^{-9}	1.1 10^{-9}	5.0 10^{-10}	3.3 10^{-10}	2.2 10^{-10}
Tellurium-134 vapour	0.696 h	F	100	0.600	6.8 10^{-10}	0.300	5.5 10^{-10}	3.0 10^{-10}	1.6 10^{-10}	1.1 10^{-10}	8.4 10^{-11}
Iodine											
Elemental iodine-120	1.35 h	V	100	1.000	3.0 10^{-9}	1.000	2.4 10^{-9}	1.3 10^{-9}	6.4 10^{-10}	4.3 10^{-10}	3.0 10^{-10}
Elemental iodine-120m	0.883 h	V	100	1.000	1.5 10^{-9}	1.000	1.2 10^{-9}	6.4 10^{-10}	3.4 10^{-10}	2.3 10^{-10}	1.8 10^{-10}
Elemental iodine-121	2.12 h	V	100	1.000	5.7 10^{-10}	1.000	5.1 10^{-10}	3.0 10^{-10}	1.7 10^{-10}	1.2 10^{-10}	8.6 10^{-11}
Elemental iodine-123	13.2 h	V	100	1.000	2.1 10^{-9}	1.000	1.8 10^{-9}	1.0 10^{-9}	4.7 10^{-10}	3.2 10^{-10}	2.1 10^{-10}
Elemental iodine-124	4.18 d	V	100	1.000	1.1 10^{-7}	1.000	1.0 10^{-7}	5.8 10^{-8}	2.8 10^{-8}	1.8 10^{-8}	1.2 10^{-8}
Elemental iodine-125	60.1 d	V	100	1.000	4.7 10^{-8}	1.000	5.2 10^{-8}	3.7 10^{-8}	2.8 10^{-8}	2.0 10^{-8}	1.4 10^{-8}
Elemental iodine-126	13.0 d	V	100	1.000	1.9 10^{-7}	1.000	1.9 10^{-7}	1.1 10^{-7}	6.2 10^{-8}	4.1 10^{-8}	2.6 10^{-8}
Elemental iodine-128	0.416 h	V	100	1.000	4.2 10^{-10}	1.000	2.8 10^{-10}	1.6 10^{-10}	1.0 10^{-10}	7.5 10^{-11}	6.5 10^{-11}
Elemental iodine-129	1.57 10^{7} a	V	100	1.000	1.7 10^{-7}	1.000	2.0 10^{-7}	1.6 10^{-7}	1.7 10^{-7}	1.3 10^{-7}	9.6 10^{-8}
Elemental iodine-130	12.4 h	V	100	1.000	1.9 10^{-8}	1.000	1.7 10^{-8}	9.2 10^{-9}	4.3 10^{-9}	2.8 10^{-9}	1.9 10^{-9}
Elemental iodine-131	8.04 d	V	100	1.000	1.7 10^{-7}	1.000	1.6 10^{-7}	9.4 10^{-8}	4.8 10^{-8}	3.1 10^{-8}	2.0 10^{-8}
Elemental iodine-132	2.30 h	V	100	1.000	2.8 10^{-9}	1.000	2.3 10^{-9}	1.3 10^{-9}	6.4 10^{-10}	4.3 10^{-10}	3.1 10^{-10}
Elemental iodine-132m	1.39 h	V	100	1.000	2.4 10^{-9}	1.000	2.1 10^{-9}	1.1 10^{-9}	5.6 10^{-10}	3.8 10^{-10}	2.7 10^{-10}
Elemental iodine-133	20.8 h	V	100	1.000	4.5 10^{-8}	1.000	4.1 10^{-8}	2.1 10^{-8}	9.7 10^{-9}	6.3 10^{-9}	4.0 10^{-9}
Elemental iodine-134	0.876 h	V	100	1.000	8.7 10^{-10}	1.000	6.9 10^{-10}	3.9 10^{-10}	2.2 10^{-10}	1.6 10^{-10}	1.5 10^{-10}
Elemental iodine-135	6.61 h	V	100	1.000	9.7 10^{-9}	1.000	8.5 10^{-9}	4.5 10^{-9}	2.1 10^{-9}	1.4 10^{-9}	9.2 10^{-10}
Methyl iodide-120	1.35 h	V	70	1.000	2.3 10^{-9}	1.000	1.9 10^{-9}	1.0 10^{-9}	4.8 10^{-10}	3.1 10^{-10}	2.0 10^{-10}
Methyl iodide-120m	0.883 h	V	70	1.000	1.0 10^{-9}	1.000	8.7 10^{-10}	4.6 10^{-10}	2.2 10^{-10}	1.5 10^{-10}	1.0 10^{-10}
Methyl iodide-121	2.12 h	V	70	1.000	4.2 10^{-10}	1.000	3.8 10^{-10}	2.2 10^{-10}	1.2 10^{-10}	8.3 10^{-11}	5.6 10^{-11}
Methyl iodide-123	13.2 h	V	70	1.000	1.6 10^{-9}	1.000	1.4 10^{-9}	7.7 10^{-10}	3.6 10^{-10}	2.4 10^{-10}	1.5 10^{-10}
Methyl iodide-124	4.18 d	V	70	1.000	8.5 10^{-8}	1.000	8.0 10^{-8}	4.5 10^{-8}	2.2 10^{-8}	1.4 10^{-8}	9.2 10^{-9}
Methyl iodide-125	60.1 d	V	70	1.000	3.7 10^{-8}	1.000	4.0 10^{-8}	2.9 10^{-8}	2.2 10^{-8}	1.6 10^{-8}	1.1 10^{-8}
Methyl iodide-126	13.0 d	V	70	1.000	1.5 10^{-7}	1.000	1.5 10^{-7}	9.0 10^{-8}	4.8 10^{-8}	3.2 10^{-8}	2.0 10^{-8}
Methyl iodide-128	0.416 h	V	70	1.000	1.5 10^{-10}	1.000	1.2 10^{-10}	6.3 10^{-11}	3.0 10^{-11}	1.9 10^{-11}	1.3 10^{-11}
Methyl iodide-129	1.57 10^{7} a	V	70	1.000	1.3 10^{-7}	1.000	1.5 10^{-7}	1.2 10^{-7}	1.3 10^{-7}	9.9 10^{-8}	7.4 10^{-8}
Methyl iodide-130	12.4 h	V	70	1.000	1.5 10^{-8}	1.000	1.3 10^{-8}	7.2 10^{-9}	3.3 10^{-9}	2.2 10^{-9}	1.4 10^{-9}

[5] Applicable to both workers and adult members of the public.

TABLE G (continues) **1034/2018**

Values of dose conversion factors *h(g)* (Sv·Bq^{-1}) for inhaled soluble or reactive gases and vapours for members of the public.

Nuclide	Physical half-life	Lung absorption type	% deposit	Age ≤ 1 a		Age	1–2 a	2–7 a	7–12 a	12–17 a	> 17 a
				f_1 for g ≤ 1 a	h(g)	f_1 for g > 1 a	h(g)	h(g)	h(g)	h(g)	h(g) [6]
Methyl iodide-131	8.04 d	V	70	1.000	1.3 10^{-7}	1.000	1.3 10^{-7}	7.4 10^{-8}	3.7 10^{-8}	2.4 10^{-8}	1.5 10^{-8}
Methyl iodide-132	2.30 h	V	70	1.000	2.0 10^{-9}	1.000	1.8 10^{-9}	9.5 10^{-10}	4.4 10^{-10}	2.9 10^{-10}	1.9 10^{-10}
Methyl iodide-132m	1.39 h	V	70	1.000	1.8 10^{-9}	1.000	1.6 10^{-9}	8.3 10^{-10}	3.9 10^{-10}	2.5 10^{-10}	1.6 10^{-10}
Methyl iodide-133	20.8 h	V	70	1.000	3.5 10^{-8}	1.000	3.2 10^{-8}	1.7 10^{-8}	7.6 10^{-9}	4.9 10^{-9}	3.1 10^{-9}
Methyl iodide-134	0.876 h	V	70	1.000	5.1 10^{-10}	1.000	4.3 10^{-10}	2.3 10^{-10}	1.1 10^{-10}	7.4 10^{-11}	5.0 10^{-11}
Methyl iodide-135	6.61 h	V	70	1.000	7.5 10^{-9}	1.000	6.7 10^{-9}	3.5 10^{-9}	1.6 10^{-9}	1.1 10^{-9}	6.8 10^{-10}
Mercury											
Mercury-193 vapour	3.50 h	-[7]	70	1.000	4.2 10^{-9}	1.000	3.4 10^{-9}	2.2 10^{-9}	1.6 10^{-9}	1.2 10^{-9}	1.1 10^{-9}
Mercury-193m vapour	11.1 h	-[7]	70	1.000	1.2 10^{-8}	1.000	9.4 10^{-9}	6.1 10^{-9}	4.5 10^{-9}	3.4 10^{-9}	3.1 10^{-9}
Mercury-194 vapour	2.60 10^{2} a	-[7]	70	1.000	9.4 10^{-8}	1.000	8.3 10^{-8}	6.2 10^{-8}	5.0 10^{-8}	4.3 10^{-8}	4.0 10^{-8}
Mercury-195 vapour	9.90 h	-[7]	70	1.000	5.3 10^{-9}	1.000	4.3 10^{-9}	2.8 10^{-9}	2.1 10^{-9}	1.6 10^{-9}	1.4 10^{-9}
Mercury-195m vapour	1.73 d	-[7]	70	1.000	3.0 10^{-8}	1.000	2.5 10^{-8}	1.6 10^{-8}	1.2 10^{-8}	8.8 10^{-9}	8.2 10^{-9}
Mercury-197 vapour	2.67 d	-[7]	70	1.000	1.6 10^{-8}	1.000	1.3 10^{-8}	8.4 10^{-9}	6.3 10^{-9}	4.7 10^{-9}	4.4 10^{-9}
Mercury-197m vapour	23.8 h	-[7]	70	1.000	2.1 10^{-8}	1.000	1.7 10^{-8}	1.1 10^{-8}	8.2 10^{-9}	6.2 10^{-9}	5.8 10^{-9}
Mercury-199m vapour	0.710 h	-[7]	70	1.000	6.5 10^{-10}	1.000	5.3 10^{-10}	3.4 10^{-10}	2.5 10^{-10}	1.9 10^{-10}	1.8 10^{-10}
Mercury-203 vapour	46.6 d	-[7]	70	1.000	3.0 10^{-8}	1.000	2.3 10^{-8}	1.5 10^{-8}	1.0 10^{-8}	7.7 10^{-9}	7.0 10^{-9}

[6] Applicable to both workers and adult members of the public.

[7] Deposition 10%: 20%: 40% (bronchial: bronchiolar: alveolar-interstitial), 1.7 day retention half-time (ICRP Publication no. 68).

TABLE H

Values of h_j conversion factors for the effective dose caused by the noble gases argon, krypton and xenon for adults.

Nuclide	Physical half-life	h_j
Argon		
Ar-37	35.0 d	$4.1\ 10^{-15}$
Ar-39	269 a	$1.1\ 10^{-11}$
Ar-41	1.83 h	$5.3\ 10^{-9}$
Krypton		
Kr-74	11.5 min	$4.5\ 10^{-9}$
Kr-76	14.8 h	$1.6\ 10^{-9}$
Kr-77	74.7 min	$3.9\ 10^{-9}$
Kr-79	1.46 d	$9.7\ 10^{-10}$
Kr-81	$2.10\ 10^{5}$ a	$2.1\ 10^{-11}$
Kr-83m	1.83 h	$2.1\ 10^{-13}$
Kr-85	10.7 a	$2.2\ 10^{-11}$
Kr-85m	4.48 h	$5.9\ 10^{-10}$
Kr-87	1.27 h	$3.4\ 10^{-9}$
Kr-88	2.84 h	$8.4\ 10^{-9}$
Xenon		
Xe-120	40.0 min	$1.5\ 10^{-9}$
Xe-121	40.1 min	$7.5\ 10^{-9}$
Xe-122	20.1 h	$1.9\ 10^{-10}$
Xe-123	2.08 h	$2.4\ 10^{-9}$
Xe-125	17.0 h	$9.3\ 10^{-10}$
Xe-127	36.4 d	$9.7\ 10^{-10}$
Xe-129m	8.0 d	$8.1\ 10^{-11}$
Xe-131m	11.9 d	$3.2\ 10^{-11}$
Xe-133m	2.19 d	$1.1\ 10^{-10}$
Xe-133	5.24 d	$1.2\ 10^{-10}$
Xe-135m	15.3 min	$1.6\ 10^{-9}$
Xe-135	9.10 h	$9.6\ 10^{-10}$
Xe-138	14.2 min	$4.7\ 10^{-9}$

ANNEX 4

Categorization of radiation practices

Table 1. Categories of radiation exposure

Exposure	Category			To be noted
	3	2	1	
Occupational exposure	Effective dose ≤ 1 mSv a year *)	Effective dose ≤ 6 mSv a year	Effective dose > 6 mSv a year or equivalent dose of an organ > 3/10 of dose limit	The effective dose is the annual dose caused to a worker.
Public exposure	Effective dose ≤ 0.1 mSv a year**)	Effective dose ≤ 0.3 mSv a year	Effective dose > 0.3 mSv a year	The effective dose is the annual dose caused to the representative person. In the categorization, the exposure of a wrong patient as a radiation safety incident is comparable to medical exposure.
Medical exposure	Effective dose ≤ 0.1 mSv a year, and the practice does not result in deterministic radiation harm to the patient.	Effective dose ≤ 100 mSv a year, and the practice does not result in deterministic radiation harm to the patient.	Effective dose > 100 mSv, or local or an organ's absorbed dose > 10 Gy, or the practice may result in deterministic radiation harm to the patient.	Concerns the dose to the patient from one examination, procedure or treatment session.

*) The category is 3 when the practice results in occupational exposure which is nevertheless so low that the workers are not categorized as radiation workers. The class is E if the practice does not result in occupational exposure.

**) The category is 3 when the practice results in minor public exposure. The class is E if the practice does not result in any public exposure at all.

Table 2. The categories of radiation sources

Radiation sources	Category			To be noted
	3	2	1	
Unsealed sources in a laboratory	Activity ≤ k · 10 · exemption value	Activity ≤ k · 10,000 · exemption value	Activity > k · 10,000 · exemption value	The activity is the greatest activity of an unsealed source handled at any one time.
	The factor k is determined according to the practice: particularly high-risk work: k = 0.1, handling by conventional chemical methods: k =1, simple handling: k = 10 and storage: k = 100.			
Discharges of radioactive substances	Effective dose ≤ 10 μSv a year	Effective dose ≤ 0.1 mSv a year	Effective dose > 0.1 mSv a year	The effective dose is the annual dose to the representative person arising from discharges.
Sealed sources	Activity ≤ the activity value of a high-activity sealed source	Activity ≤ 1,000 · the activity value of a high-activity sealed source.	Activity > 1,000 · the activity value of a high-activity sealed source.	The activity value of a sealed source means the activity value provided under section 75, subsection 5 of the Radiation Act.
Waste to be disposed of in the form of mounding	$M \cdot \sum_i \frac{c_i}{CL_i} \leq 1{,}000$ kilograms and $c_i \leq 10 \times CL_i$	$M \cdot \sum_i \frac{c_i}{CL_i} \leq 10{,}000$ kilograms and $c_i \leq 100 \times CL_i$	$M \cdot \sum_i \frac{c_i}{CL_i} > 10{,}000$ kilograms or $c_i > 100 \times CL_i$	The disposal of waste as separate mounding to a landfill or among other waste generated in the practice. Concerns radioactive waste and the waste referred to in section 74, subsection 3 of the Radiation Act.
	where M is the mass of the waste in the unit of kilograms, c_i is the activity concentration of the nuclide i in the waste in the units kBq/kg, and CL_i is the nuclide's clearance level in the units kBq/kg. The sum accounts for the nuclides i in the waste.			

ANNEX 5

Details to be included in a safety licence application

1. A safety licence application must include the following based on the nature and extent of the practice:
   1.1 a description on the practice and its purpose, if the case involves a new type of practice;
   1.2 a report on the justification for the practice should this be necessary according to section 24 of the Radiation Act;
   1.3 the street address of the location where the practice is engaged in or other equivalent information identifying the location where the practice is engaged in;
   1.4 technical specifications which show that the facility where the radiation sources are used and stored meet the in-service safety requirements set by STUK.
   1.5 pictures and drawings of the areas and premises of the facility where the practice is engaged in (including scale), which indicate the purpose of the areas and premises, the locations of the radiation sources, controlled and supervised areas, structural protections, including information on materials, passageways and the location of warning systems, fixed radiation monitoring meters and access control points.
2. Technical information on the radiation sources and the related appliances and equipment which show that they meet STUK 's regulations on in-service radiation safety must be presented. The following information on radiation sources must also be included:
   2.1 on a radiation source containing a radioactive substance: radionuclide, activity and the activity's determination date;
   2.2 of an unsealed source, the greatest activity to be handled and stored at any one time nuclide-specifically as well as information on the type of handling in question;
   2.3 of an appliance producing radiation electrically: the radiation type and the values of the essential parameters influencing the radiation output;
   2.4 of sealed sources: the unique identifier of the sealed source provided by the manufacturer and the manufacturer's document concerning the identification;
   2.5 of a sealed source: a certificate of compliance and a special form certificate, if the sealed source is transported according to the requirements applicable to special form sources, as well as the manufacturer's commitment to receive the sealed source after its use has come to an end in accordance with section 76 of the Radiation Act;
   2.6 of a high-activity sealed source: a picture of the sealed source's structure and transport package as well as of the appliance and container in which the sealed source is used or stored;
   2.7 a breakdown of the export, import or transfer of high-activity sealed sources separately for each sealed source consignment to be exported, imported or transferred.
3. Information on a radiation source's individual control code provided by the Radiation and Nuclear Safety Authority may be presented in lieu of the information referred to in section 2 above.

4. The application must include the following on safety and security arrangements according to the nature and extent of the practice:
   - 4.1 a safety assessment;
   - 4.2 information on the management system referred to in section 29, subsection 2 of the Radiation Act;
   - 4.3 a description on the practice's different work phases key to radiation safety and the procedures complied with in them;
   - 4.4 a plan for radiation safety deviations;
   - 4.5 the categorization and number of radiation workers and information on how the radiological surveillance and the individual monitoring and medical surveillance of radiation workers belonging in category A has been organized;
   - 4.6 the dose constraints complied with in the practice;
   - 4.7 a plan on security arrangements;
   - 4.8 information on the quality system concerning the practice and on the procedures used in quality management;
   - 4.9 the amounts and types of radioactive waste generated in the practice and of waste referred to in section 59, subsection 3 of Radiation Act as well as the arrangements concerning the waste, itemized according to the type of the waste;
   - 4.10 plan on discharges.

5. The application must include the civil status document of the applicant for a safety licence or, if the applicant is a private corporation or foundation, an extract from the relevant register.

If the application pertains to the import, export or transfer of radioactive waste, the application must be submitted in compliance with the requirements provided in Article 6, 7, 10 and 13–15 of the Commission Decision establishing the standard document for the supervision and control of shipments of radioactive waste and spent fuel referred to in Council Directive 2006/117/Euratom (2008/312/Euratom).

ANNEX 6

Matters to be addressed in the national action plan for preventing risks arising from radon

The action plan must detail the following information:

1. long-term objectives for reducing the lung cancer risk arising from radon exposure;
2. reference levels;
3. measurements;
4. surveys of radon concentrations in indoor air;
5. identification of sites and areas with high radon concentrations;
6. the reduction and prevention of high radon concentrations;
7. risk communication.