

SCHEDULE 9

Regulation 10

GENERAL BINDING RULES

**PART 1**

General binding rules

<i>Column 1</i> <i>Activity</i>	<i>Column 2</i> <i>General Binding Rules</i>
1. The management of a category 5 sealed source.	(a) (a) The radioactive substances common rules; (b) a non-metallic category 5 sealed source must only be disposed of in normal refuse; (c) the activity of an individual category 5 sealed source disposed of must not exceed $2 \times 10^5$ becquerels; (d) more than one source must not be disposed of in any $0.1 \text{ m}^3$ of normal refuse; (e) the total activity of category 5 sealed sources disposed of in normal refuse from premises in a year must not exceed $1 \times 10^7$ becquerels; (f) a metallic category 5 sealed source must only be disposed of by landfill.
2. The management of a smoke detector.	(a) (a) The total number of smoke detectors kept on a premises, and not affixed to the premises, must not exceed 500. (b) a smoke detector must be managed in a manner which prevents the dispersal of radionuclides; (c) a smoke detector must only be disposed of in normal refuse; (d) more than one smoke detector must not be disposed of in any $0.1 \text{ m}^3$ of normal refuse.
3. The management of a tritium source.	(a) (a) The radioactive substances common rules; (b) the total activity of tritium sources, other than Class B gaseous tritium light devices and Class C gaseous tritium light devices, on a premises must not exceed $5 \times 10^{12}$ becquerels;

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- (c) the total activity of Class B gaseous tritium light devices and Class C gaseous tritium light devices on a premises must not exceed  $3 \times 10^{13}$  becquerels;
  - (d) a tritium source with an activity greater than  $2 \times 10^{10}$  becquerels must not be disposed of;
  - (e) a tritium source must only be disposed of in normal refuse;
  - (f) more than one tritium source must not be disposed of in any  $0.1 \text{ m}^3$  of normal refuse;
  - (g) the total activity of tritium sources disposed of in normal refuse from a premises in a year must not exceed  $1 \times 10^{13}$  becquerels.
- 4. The management (other than the disposal) of an electrodeposited source.
  - (a) (a) The radioactive substances common rules.
- 5. The management of a barium eluting source.
  - (a) (a) The radioactive substances common rules;
  - (b) the total activity of all barium eluting sources kept on a premises must not exceed  $4 \times 10^5$  becquerels of Cs-137+;
  - (c) a waste barium eluting source must only be disposed of in normal refuse;
  - (d) more than one barium eluting source must not be disposed of in any  $0.1 \text{ m}^3$  of normal refuse;
- 6. The management of a thorium alloy.
  - (a) (a) The radioactive substances common rules;
  - (b) a thorium alloy must only be disposed of by landfill.
- 7. The management of a uranium or thorium compound.
  - (a) (a) The radioactive substances common rules;
  - (b) a uranium or thorium compound which is solid waste must only be disposed of in normal refuse;
  - (c) the total quantity of uranium or thorium in a uranium or thorium compound disposed of from a premises in normal refuse must not exceed 0.5 kilogrammes per week;

8. The management of a medical or veterinary radioactive substance.

- (d) a uranium or thorium compound which is aqueous waste must be disposed of to a relevant sewer;
  - (e) the total quantity of uranium or thorium in a uranium or thorium compound disposed of from a premises to a relevant sewer must not exceed 0.5 kilogrammes per year.
- (a) (a) The radioactive substances common rules;
  - (b) a medical or veterinary radioactive substance must only be—
    - (i) (i) disposed of in normal refuse; or
    - (ii) disposed into—
      - (aa) (aa) a relevant sewer;
      - (bb) a river, which at the time of any disposal into it of aqueous radioactive waste has a flow rate which is not less than  $1\text{m}^3\text{s}^{-1}$ ; or
      - (cc) the sea;
    - (c) (c) a single item of medical or veterinary radioactive waste must not be disposed of in normal refuse if its activity exceeds—
      - (i) (i)  $4 \times 10^5$  becquerels for tritium or C-14; or
      - (ii)  $4 \times 10^4$  becquerels for any other radionuclide;
    - (d) (d) the total activity of medical or veterinary radioactive waste disposed of per  $0.1\text{m}^3$  of normal refuse must not exceed—
      - (i) (i)  $4 \times 10^6$  becquerels for tritium or C-14; or
      - (ii)  $4 \times 10^5$  becquerels for any other radionuclide;
    - (e) (e) the total activity of medical or veterinary waste disposed of in normal refuse from a premises in a year must not exceed—
      - (i) (i)  $2 \times 10^9$  becquerels for tritium or C-14; or
      - (ii)  $2 \times 10^8$  becquerels for any other radionuclide;

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- (f) (f) if the medical or veterinary waste consists of human excreta, the total activity of liquid aqueous waste disposed of from a premises to a relevant sewer in a year must not exceed—
    - (i) (i)  $1 \times 10^{10}$  becquerels for Tc-99m; or
    - (ii)  $5 \times 10^9$  becquerels for the sum of all other radionuclides;
  - (g) (g) if the medical or veterinary waste does not consist of human excreta, the total activity of liquid aqueous waste disposed of from a premises to a relevant sewer in a year must not exceed—
    - (i) (i)  $1 \times 10^8$  becquerels for the sum of the following radionuclides: H-3, C-11, C-14, F-18, P-32, P-33, S-35, Ca-45, Cr-51, Fe-55, Ga-67, Sr-89, Y-90, Tc-99m, In-111, I-123, I-125, I-131, Sm-153, Tl-201; or
    - (ii)  $1 \times 10^6$  becquerels for the sum of all other radionuclides;
  - (h) (h) if the waste does not consist of human excreta, the concentration of liquid aqueous waste disposed of from a premises to a relevant sewer must not exceed 100 becquerels per millilitre.
9. The management (other than disposal) of a NORM containing substance.
- (a) (a) The radioactive substances common rules;
  - (b) the total activity of NORM containing substances transferred from a premises in a year to a person for disposal in a landfill must not exceed the value specified in column 3 of Table 1;
  - (c) the total activity of NORM containing substances transferred from a premises in a year to a person for incineration must not exceed the value specified in column 4 of Table 1.
10. The disposal of gaseous radioactive waste which—
- (a) (a) contains no radionuclides other than Kr-85; and
  - (a) (a) The total amount of gaseous Kr-85 waste disposed of from premises in a year must not exceed  $1 \times 10^{11}$  becquerels;

- (b) arises from lamps containing Kr-85.
11. Any other radioactive substances activity, not falling within any other activity description in this schedule, where—
- (a) (a) the total activity of a radionuclide does not exceed the value specified in column 2 of Table 2; or
- (b) (b) the concentration of radioactivity of a radionuclide does not exceed the value specified in column 3 of Table 2.
- (b) gaseous Kr-85 waste must be adequately dispersed from the building in which it arose so that it does not enter, or re-enter, a building.
- (a) (a) The radioactive substances common rules;
- (b) (b) a solid radioactive substance must only be disposed of in normal refuse;
- (c) (c) a single item of radioactive waste must not be disposed of in normal refuse if it exceeds—
- (i) (i)  $4 \times 10^5$  becquerels for tritium or C-14; or
- (ii)  $4 \times 10^4$  becquerels for any other radionuclide;
- (d) (d) the total activity of radioactive substances disposed of per  $0.1 \text{ m}^3$  of normal refuse must not exceed—
- (i) (i)  $4 \times 10^6$  becquerels for tritium or C-14; or
- (ii)  $4 \times 10^5$  becquerels for any other radionuclide;
- (e) (e) an aqueous liquid radioactive substance must only be disposed of into—
- (i) (i) a relevant sewer;
- (ii) a river, which at the time of any disposal into it of aqueous radioactive waste has a flow rate which is not less than  $1 \text{ m}^3 \text{ s}^{-1}$ ; or
- (iii) the sea;
- (f) (f) the total activity of liquid aqueous radioactive waste disposed of from a premises in a year must not exceed—
- (i) (i)  $1 \times 10^8$  becquerels for the sum of the following radionuclides: H-3, C-11, C-14, F-18, P-32, P-33, S-35, Ca-45, Cr-51, Fe-55, Ga-67, Sr-89, Y-90, Tc-99m, In-111, I-123, I-125, I-131, Sm-153, Tl-201; or

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- (ii)  $1 \times 10^6$  becquerels for the sum of all other radionuclides;
  - (g) (g) the concentration of liquid aqueous radioactive waste disposed of from a premises must not exceed 100 becquerels per millilitre;
  - (h) gaseous waste must not be disposed of unless—
    - (i) (i) it consists of fugitive releases from a container; and
    - (ii) it is dispersed from a building in such a way that it does not enter or re-enter a building.
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## PART 2

### Interpretation of general binding rules

1. In this schedule—

“barium eluting source” means a source which—

- (a) consists of Cs-137+ in a sealed container which is designed and constructed to allow the elution of Ba-137m;
- (b) is radioactive material or radioactive waste solely because of that Cs-137+; and
- (c) does not contain an activity exceeding  $4 \times 10^4$  becquerels of Cs-137+;

“category 5 sealed source” means a source, or an aggregate of sources, that would fall within category 5 as defined by the International Atomic Energy Agency in Categorisation of Radioactive Sources (RS-G-1.9) <sup>M1</sup>;

“Class A gaseous tritium light device” means such a device where the activity of the device does not exceed  $2 \times 10^{10}$  becquerels of tritium;

“Class B gaseous tritium light device” means such a device which is installed or intended to be installed on premises and where the activity—

- (a) in each sealed container in the device does not exceed  $8 \times 10^{10}$  becquerels of tritium; and
- (b) of the device does not exceed  $1 \times 10^{12}$  becquerels of tritium;

“Class C gaseous tritium light device” means such a device installed or intended to be installed—

- (a) in a vessel or aircraft; or
- (b) in a vehicle or other equipment used or intended to be used by the armed forces of the Crown;

“disposed of in normal refuse” means disposed of with substantial quantities of non-radioactive waste for landfill or incineration or composting where the radioactive waste will be mixed with such non-radioactive waste for the purposes of such burial, incineration or recovery;

“electrodeposited source” means an article where radionuclides are electrodeposited onto a metal substrate and which is radioactive material or radioactive waste solely because it contains Ni-63 or Fe-55 the total activity of which does not exceed—

(a)  $6 \times 10^8$  becquerels of Ni-63; or

(b)  $2 \times 10^8$  becquerels of Fe-55;

“gaseous tritium light device” means a sealed source (or such a source which has become broken) which incorporates tritium in a device which is an illuminant, instrument, sign or indicator;

“luminised article” means an article other than a sealed source—

(a) which is made wholly or partly from a luminescent substance in the form of a film or a paint;

(b) the activity of which does not exceed  $4 \times 10^9$  becquerels;

“manage” means any activity involving radioactive material or radioactive waste except the production of radionuclides or the manufacture of radioactive sources and related expressions are to be construed accordingly;

“medical or veterinary radioactive substance” means radioactive material or radioactive waste (other than a sealed source) which is intended for use, is used, or arises from medical or veterinary diagnosis or treatment or clinical or veterinary trials;

“relevant sewer” means—

(a) a public sewer; or

(b) a private sewer which leads to a sewage treatment works that—

(i) has the capacity to handle a minimum of  $100\text{m}^3$  of sewage per day; and

(ii) discharges treated sewage only to the sea, to a tidal estuary or to a river that has a flow rate of not less than  $1\text{m}^3\text{s}^{-1}$ ;

“sea” includes any area submerged at mean high water springs and also includes, so far as the tide flows at mean high water springs, an estuary or arm of the sea and the waters of any channel, creek, bay or river;

“sealed source” means a radioactive source in which the radioactive substance is permanently sealed in a capsule or incorporated in a solid form with the objective of preventing, under normal conditions of use, any dispersion of radioactive substances;

“sewer”, “public sewer”, “private sewer”, “sewage treatment works” and “sewage” have the same meanings as in section 59(1) of the Sewerage (Scotland) Act 1968 <sup>M2</sup>;

“smoke detector” means a smoke detector incorporating a sealed source the total activity of which does not exceed  $4 \times 10^4$  becquerels;

“Table 1” and “Table 2” mean the tables with that number in Part 3;

“thorium alloy” means a substance or article which is, or contains—

(a) magnesium alloy;

(b) thoriated tungsten; or

(c) dross from hardener alloy,

in which the thorium content does not exceed 4% by mass;

“a tritium foil source” means an article which has a mechanically tough surface into which tritium is incorporated the total activity of which does not exceed  $2 \times 10^{10}$  becquerels;

“tritium source” means radioactive material or radioactive waste which contains no radionuclides except for tritium and which is either—

(a) a gaseous tritium light device;

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- (b) a sealed source;
- (c) a tritium foil source; or
- (d) a luminised article;

“uranium or thorium compound” means a substance or article which is radioactive material or radioactive waste solely because it is or contains metallic uranium or thorium or prepared compounds of uranium or thorium, and in respect of which metal or compound the proportion of—

- (a) U-235 in the uranium it contains is no more than 0.72% by mass; and
- (b) any isotope of thorium it contains is present in the isotopic proportions found in nature.

#### Marginal Citations

- M1** INTERNATIONAL ATOMIC ENERGY AGENCY, Categorization of Radioactive Sources, IAEA Safety Standards Series No. RS-G-1.9, IAEA, Vienna (2005).
- M2** 1968 c.47 as relevantly amended by the [Water Industry \(Scotland\) Act 2002 \(asp 3\)](#), [schedule 5](#), paragraph 41(b)(iv) and the [Water Environment and Water Services \(Scotland\) Act 2003 \(asp 3\)](#), [schedule 3](#), paragraph 23(a).

#### Interpretation: NORM

2.—(1) In this schedule, “NORM containing substance” means a solid substance or article which—

- (a) is either—
  - (i) radioactive material or radioactive waste under paragraph 6(2) of schedule 8; or
  - (ii) except where sub-paragraph (2) applies, radioactive waste under paragraph 7 of schedule 8 arising from the remediation of land contaminated by radium;
- (b) contains one or more of the radionuclides which are listed in column 1 of Table 1; and
- (c) has a concentration of radioactivity that does not exceed the value specified in column 2 of Table 2 in respect of that radionuclide.

(2) Land is not contaminated under sub-paragraph (1)(a)(ii) unless the contamination occurred prior to 13th May 2000.

#### Interpretation: radioactive substances common rules

3. In this schedule, “radioactive substances common rules” means the following rules—
- (a) a radioactive substance must be managed in a manner which prevents the reckless or accidental dispersal of radionuclides and, in the case of a sealed source, which prevents any dispersal of radionuclides;
  - (b) a radioactive substance must be managed safely and securely to minimise the risk of—
    - (i) unauthorised or accidental use;
    - (ii) loss; and
    - (iii) theft;
  - (c) records of a radioactive substance must be kept—
    - (i) from receipt of a radioactive substance until at least 2 years after the date of its transfer or disposal;



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- (ii) which include, as a minimum, a description of each source, article or radioactive substance, the location where it is normally kept or used, details of any transfer, and details of any disposal;
- (d) where practicable, a radioactive substance must be marked or labelled as radioactive but any labelling or marking must be removed before it is disposed of in normal refuse;
- (e) SEPA must be promptly notified of a loss or theft (or suspected loss or theft) of radioactive substances where the total amount of radioactive substances lost or stolen (or suspected to have been lost or stolen) from the premises, together with the amount of other substances lost or stolen from the premises in the preceding 12 months, exceeds the value that is ten times the value for the relevant radionuclide in column 3 of Table 2;
- (f) a radioactive substance must not be transferred to a person who is not legally entitled to manage it;
- (g) a radioactive substance must be transferred or disposed of as soon as practicable after it becomes waste.

### PART 3

#### Tables

**Table 1**

#### **NORM waste concentrations and maximum disposal quantities**

<i>Radionuclide</i>	<i>NORM concentration (Bq/g)</i>	<i>NORM total activity for landfill (GBq/year)</i>	<i>NORM total activity for incineration (MBq/year)</i>
U-238sec	5	50	100
U-238+	5	50	100
U-234	5	50	100
Th-230	5	50	100
Ra-226+	5	50	100
Pb-210+	100	1000	100
Po-210	100	1000	100
U-235sec	5	50	100
U-235+	5	50	100
Pa-231	5	50	100
Ac-227+	5	50	100
Th-232sec	5	50	100
Th-232	5	50	100
Ra-228+	5	50	100
Th-228+	5	50	100

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The summation rule in respect of column 2 of Table 1 is the sum of the quotients A/B where—

- (a) “A” means the concentration of each radionuclide listed in column 1 of Table 1 that is present in the radioactive waste; and
- (b) “B” means the concentration of that radionuclide specified in column 2 of Table 1.

The summation rule in respect of columns 3 and 4 of Table 1 is the sum of the quotients C/D where—

- (a) “C” means the quantity of each radionuclide listed in column 1 of Table 1 that is present in the radioactive waste; and
- (b) “D” means the quantity of that radionuclide specified in column 3 or 4 (as appropriate) of Table 1.

**Table 2**

**Table of radionuclide activity values**

<i>Radionuclide</i>	<i>Activity Concentration (kilobecquerels per kilogram<sup>1</sup>)</i>	<i>Activity (becquerels)</i>
H-3	$1 \times 10^6$	$1 \times 10^9$
Be-7	$1 \times 10^3$	$1 \times 10^7$
C-14	$1 \times 10^4$	$1 \times 10^7$
O-15	$1 \times 10^2$	$1 \times 10^9$
F-18	$1 \times 10^1$	$1 \times 10^6$
Na-22	$1 \times 10^1$	$1 \times 10^6$
Na-24	$1 \times 10^1$	$1 \times 10^5$
Si-31	$1 \times 10^3$	$1 \times 10^6$
P-32	$1 \times 10^3$	$1 \times 10^5$
P-33	$1 \times 10^5$	$1 \times 10^8$
S-35	$1 \times 10^5$	$1 \times 10^8$
Cl-36	$1 \times 10^4$	$1 \times 10^6$
Cl-38	$1 \times 10^1$	$1 \times 10^5$
Ar-37	$1 \times 10^6$	$1 \times 10^8$
Ar-41	$1 \times 10^2$	$1 \times 10^9$
K-40 <sup>1</sup>	$1 \times 10^2$	$1 \times 10^6$
K-42	$1 \times 10^2$	$1 \times 10^6$

<sup>1</sup> Potassium salts in quantities less than 1000kg are exempted.

<sup>2</sup> National Radiological Protection Board, Didcot (United Kingdom) 1999.

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K-43	$1 \times 10^1$	$1 \times 10^6$
Ca-45	$1 \times 10^4$	$1 \times 10^7$
Ca-47	$1 \times 10^1$	$1 \times 10^6$
Sc-46	$1 \times 10^1$	$1 \times 10^6$
Sc-47	$1 \times 10^2$	$1 \times 10^6$
Sc-48	$1 \times 10^1$	$1 \times 10^5$
V-48	$1 \times 10^1$	$1 \times 10^5$
Cr-51	$1 \times 10^3$	$1 \times 10^7$
Mn-51	$1 \times 10^1$	$1 \times 10^5$
Mn-52	$1 \times 10^1$	$1 \times 10^5$
Mn-52m	$1 \times 10^1$	$1 \times 10^5$
Mn-53	$1 \times 10^4$	$1 \times 10^9$
Mn-54	$1 \times 10^1$	$1 \times 10^6$
Mn-56	$1 \times 10^1$	$1 \times 10^5$
Fe-52	$1 \times 10^1$	$1 \times 10^6$
Fe-55	$1 \times 10^4$	$1 \times 10^6$
Fe-59	$1 \times 10^1$	$1 \times 10^6$
Co-55	$1 \times 10^1$	$1 \times 10^6$
Co-56	$1 \times 10^1$	$1 \times 10^5$
Co-57	$1 \times 10^2$	$1 \times 10^6$
Co-58	$1 \times 10^1$	$1 \times 10^6$
Co-58m	$1 \times 10^4$	$1 \times 10^7$
Co-60	$1 \times 10^1$	$1 \times 10^5$
Co-60m	$1 \times 10^3$	$1 \times 10^6$
Co-61	$1 \times 10^2$	$1 \times 10^6$
Co-62m	$1 \times 10^1$	$1 \times 10^5$
Ni-59	$1 \times 10^4$	$1 \times 10^8$
Ni-63	$1 \times 10^5$	$1 \times 10^8$
Ni-65	$1 \times 10^1$	$1 \times 10^6$

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Cu-64	$1 \times 10^2$	$1 \times 10^6$
Zn-65	$1 \times 10^1$	$1 \times 10^6$
Zn-69	$1 \times 10^4$	$1 \times 10^6$
Zn-69m	$1 \times 10^2$	$1 \times 10^6$
Ga-72	$1 \times 10^1$	$1 \times 10^5$
Ge-71	$1 \times 10^4$	$1 \times 10^8$
As-73	$1 \times 10^3$	$1 \times 10^7$
As-74	$1 \times 10^1$	$1 \times 10^6$
As-76	$1 \times 10^2$	$1 \times 10^5$
As-77	$1 \times 10^3$	$1 \times 10^6$
Se-75	$1 \times 10^2$	$1 \times 10^6$
Br-82	$1 \times 10^1$	$1 \times 10^6$
Kr-74	$1 \times 10^2$	$1 \times 10^9$
Kr-76	$1 \times 10^2$	$1 \times 10^9$
Kr-77	$1 \times 10^2$	$1 \times 10^9$
Kr-79	$1 \times 10^3$	$1 \times 10^5$
Kr-81	$1 \times 10^4$	$1 \times 10^7$
Kr-83m	$1 \times 10^5$	$1 \times 10^{12}$
Kr-85	$1 \times 10^5$	$1 \times 10^4$
Kr-85m	$1 \times 10^3$	$1 \times 10^{10}$
Kr-87	$1 \times 10^2$	$1 \times 10^9$
Kr-88	$1 \times 10^2$	$1 \times 10^9$
Rb-86	$1 \times 10^2$	$1 \times 10^5$
Sr-85	$1 \times 10^2$	$1 \times 10^6$
Sr-85m	$1 \times 10^2$	$1 \times 10^7$
Sr-87m	$1 \times 10^2$	$1 \times 10^6$
Sr-89	$1 \times 10^3$	$1 \times 10^6$
Sr-90+	$1 \times 10^2$	$1 \times 10^4$
Sr-91	$1 \times 10^1$	$1 \times 10^5$

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<sup>2</sup> National Radiological Protection Board, Didcot (United Kingdom) 1999.

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Sr-92	$1 \times 10^1$	$1 \times 10^6$
Y-90	$1 \times 10^3$	$1 \times 10^5$
Y-91	$1 \times 10^3$	$1 \times 10^6$
Y-91m	$1 \times 10^2$	$1 \times 10^6$
Y-92	$1 \times 10^2$	$1 \times 10^5$
Y-93	$1 \times 10^2$	$1 \times 10^5$
Zr-93+	$1 \times 10^3$	$1 \times 10^7$
Zr-95	$1 \times 10^1$	$1 \times 10^6$
Zr-97+	$1 \times 10^1$	$1 \times 10^5$
Nb-93m	$1 \times 10^4$	$1 \times 10^7$
Nb-94	$1 \times 10^1$	$1 \times 10^6$
Nb-95	$1 \times 10^1$	$1 \times 10^6$
Nb-97	$1 \times 10^1$	$1 \times 10^6$
Nb-98	$1 \times 10^1$	$1 \times 10^5$
Mo-90	$1 \times 10^1$	$1 \times 10^6$
Mo-93	$1 \times 10^3$	$1 \times 10^8$
Mo-99	$1 \times 10^2$	$1 \times 10^6$
Mo-101	$1 \times 10^1$	$1 \times 10^6$
Tc-96	$1 \times 10^1$	$1 \times 10^6$
Tc-96m	$1 \times 10^3$	$1 \times 10^7$
Tc-97	$1 \times 10^3$	$1 \times 10^8$
Tc-97m	$1 \times 10^3$	$1 \times 10^7$
Tc-99	$1 \times 10^4$	$1 \times 10^7$
Tc-99m	$1 \times 10^2$	$1 \times 10^7$
Ru-97	$1 \times 10^2$	$1 \times 10^7$
Ru-103	$1 \times 10^2$	$1 \times 10^6$
Ru-105	$1 \times 10^1$	$1 \times 10^6$
Ru-106+	$1 \times 10^2$	$1 \times 10^5$
Rh-103m	$1 \times 10^4$	$1 \times 10^8$

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<sup>1</sup> Potassium salts in quantities less than 1000kg are exempted.

<sup>2</sup> National Radiological Protection Board, Didcot (United Kingdom) 1999.

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**Changes to legislation:** There are currently no known outstanding effects for the The Environmental Authorisations (Scotland) Regulations 2018, SCHEDULE 9. (See end of Document for details)

Rh-105	$1 \times 10^2$	$1 \times 10^7$
Pd-103	$1 \times 10^3$	$1 \times 10^8$
Pd-109	$1 \times 10^3$	$1 \times 10^6$
Ag-105	$1 \times 10^2$	$1 \times 10^6$
Ag-108m	$1 \times 10^1$	$1 \times 10^6$
Ag-110m	$1 \times 10^1$	$1 \times 10^6$
Ag-111	$1 \times 10^3$	$1 \times 10^6$
Cd-109	$1 \times 10^4$	$1 \times 10^6$
Cd-115	$1 \times 10^2$	$1 \times 10^6$
Cd-115m	$1 \times 10^3$	$1 \times 10^6$
In-111	$1 \times 10^2$	$1 \times 10^6$
In-113m	$1 \times 10^2$	$1 \times 10^6$
In-114m	$1 \times 10^2$	$1 \times 10^6$
In-115m	$1 \times 10^2$	$1 \times 10^6$
Sn-113	$1 \times 10^3$	$1 \times 10^7$
Sn-125	$1 \times 10^2$	$1 \times 10^5$
Sb-122	$1 \times 10^2$	$1 \times 10^4$
Sb-124	$1 \times 10^1$	$1 \times 10^6$
Sb-125	$1 \times 10^2$	$1 \times 10^6$
Te-123m	$1 \times 10^2$	$1 \times 10^7$
Te-125m	$1 \times 10^3$	$1 \times 10^7$
Te-127	$1 \times 10^3$	$1 \times 10^6$
Te-127m	$1 \times 10^3$	$1 \times 10^7$
Te-129	$1 \times 10^2$	$1 \times 10^6$
Te-129m	$1 \times 10^3$	$1 \times 10^6$
Te-131	$1 \times 10^2$	$1 \times 10^5$
Te-131m	$1 \times 10^1$	$1 \times 10^6$
Te-132	$1 \times 10^2$	$1 \times 10^7$
Te-133	$1 \times 10^1$	$1 \times 10^5$

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<sup>1</sup> Potassium salts in quantities less than 1000kg are exempted.

<sup>2</sup> National Radiological Protection Board, Didcot (United Kingdom) 1999.

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**Changes to legislation:** There are currently no known outstanding effects for the The Environmental Authorisations (Scotland) Regulations 2018, SCHEDULE 9. (See end of Document for details)

Te-133m	$1 \times 10^1$	$1 \times 10^5$
Te-134	$1 \times 10^1$	$1 \times 10^6$
I-123	$1 \times 10^2$	$1 \times 10^7$
I-125	$1 \times 10^3$	$1 \times 10^6$
I-126	$1 \times 10^2$	$1 \times 10^6$
I-129	$1 \times 10^2$	$1 \times 10^5$
I-130	$1 \times 10^1$	$1 \times 10^6$
I-131	$1 \times 10^2$	$1 \times 10^6$
I-132	$1 \times 10^1$	$1 \times 10^5$
I-133	$1 \times 10^1$	$1 \times 10^6$
I-134	$1 \times 10^1$	$1 \times 10^5$
I-135	$1 \times 10^1$	$1 \times 10^6$
Xe-131+	$1 \times 10^4$	$1 \times 10^4$
Xe-133	$1 \times 10^3$	$1 \times 10^4$
Xe-135	$1 \times 10^3$	$1 \times 10^{10}$
Cs-129	$1 \times 10^2$	$1 \times 10^5$
Cs-131	$1 \times 10^3$	$1 \times 10^6$
Cs-132	$1 \times 10^1$	$1 \times 10^5$
Cs-134+	$1 \times 10^3$	$1 \times 10^5$
Cs-134	$1 \times 10^1$	$1 \times 10^4$
Cs-135	$1 \times 10^4$	$1 \times 10^7$
Cs-136	$1 \times 10^1$	$1 \times 10^5$
Cs-137+	$1 \times 10^1$	$1 \times 10^4$
Cs-138	$1 \times 10^1$	$1 \times 10^4$
Ba-131	$1 \times 10^2$	$1 \times 10^6$
Ba-140+	$1 \times 10^1$	$1 \times 10^5$
La-140	$1 \times 10^1$	$1 \times 10^5$
Ce-139	$1 \times 10^2$	$1 \times 10^6$
Ce-141	$1 \times 10^2$	$1 \times 10^7$

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<sup>1</sup> Potassium salts in quantities less than 1000kg are exempted.

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**Changes to legislation:** There are currently no known outstanding effects for the The Environmental Authorisations (Scotland) Regulations 2018, SCHEDULE 9. (See end of Document for details)

Ce-143	$1 \times 10^2$	$1 \times 10^6$
Ce-144+	$1 \times 10^2$	$1 \times 10^5$
Pr-142	$1 \times 10^2$	$1 \times 10^5$
Pr-143	$1 \times 10^4$	$1 \times 10^6$
Nd-147	$1 \times 10^2$	$1 \times 10^6$
Nd-149	$1 \times 10^2$	$1 \times 10^6$
Pm-147	$1 \times 10^4$	$1 \times 10^7$
Pm-149	$1 \times 10^3$	$1 \times 10^6$
Sm-151	$1 \times 10^4$	$1 \times 10^8$
Sm-153	$1 \times 10^2$	$1 \times 10^6$
Eu-152	$1 \times 10^1$	$1 \times 10^6$
Eu-152m	$1 \times 10^2$	$1 \times 10^6$
Eu-154	$1 \times 10^1$	$1 \times 10^6$
Eu-155	$1 \times 10^2$	$1 \times 10^7$
Gd-153	$1 \times 10^2$	$1 \times 10^7$
Gd-159	$1 \times 10^3$	$1 \times 10^6$
Tb-160	$1 \times 10^1$	$1 \times 10^6$
Dy-165	$1 \times 10^3$	$1 \times 10^6$
Dy-166	$1 \times 10^3$	$1 \times 10^6$
Ho-166	$1 \times 10^3$	$1 \times 10^5$
Er-169	$1 \times 10^4$	$1 \times 10^7$
Er-171	$1 \times 10^2$	$1 \times 10^6$
Tm-170	$1 \times 10^3$	$1 \times 10^6$
Tm-171	$1 \times 10^4$	$1 \times 10^8$
Yb-175	$1 \times 10^3$	$1 \times 10^7$
Lu-177	$1 \times 10^3$	$1 \times 10^7$
Hf-181	$1 \times 10^1$	$1 \times 10^6$
Ta-182	$1 \times 10^1$	$1 \times 10^4$
W-181	$1 \times 10^3$	$1 \times 10^7$

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<sup>1</sup> Potassium salts in quantities less than 1000kg are exempted.

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**Changes to legislation:** There are currently no known outstanding effects for the The Environmental Authorisations (Scotland) Regulations 2018, SCHEDULE 9. (See end of Document for details)

W-185	$1 \times 10^4$	$1 \times 10^7$
W-187	$1 \times 10^2$	$1 \times 10^6$
Re-186	$1 \times 10^3$	$1 \times 10^6$
Re-188	$1 \times 10^2$	$1 \times 10^5$
Os-185	$1 \times 10^1$	$1 \times 10^6$
Os-191	$1 \times 10^2$	$1 \times 10^7$
Os-191m	$1 \times 10^3$	$1 \times 10^7$
Os-193	$1 \times 10^2$	$1 \times 10^6$
Ir-190	$1 \times 10^1$	$1 \times 10^6$
Ir-192	$1 \times 10^1$	$1 \times 10^4$
Pt-191	$1 \times 10^2$	$1 \times 10^6$
Pt-193m	$1 \times 10^3$	$1 \times 10^7$
Pt-197	$1 \times 10^3$	$1 \times 10^6$
Pt-197m	$1 \times 10^2$	$1 \times 10^6$
Au-198	$1 \times 10^2$	$1 \times 10^6$
Au-199	$1 \times 10^2$	$1 \times 10^6$
Hg-197	$1 \times 10^2$	$1 \times 10^7$
Hg-197m	$1 \times 10^2$	$1 \times 10^6$
Hg-203	$1 \times 10^2$	$1 \times 10^5$
Tl-200	$1 \times 10^1$	$1 \times 10^6$
Tl-201	$1 \times 10^2$	$1 \times 10^6$
Tl-202	$1 \times 10^2$	$1 \times 10^6$
Tl-204	$1 \times 10^4$	$1 \times 10^4$
Pb-203	$1 \times 10^2$	$1 \times 10^6$
Pb-210+	$1 \times 10^1$	$1 \times 10^4$
Pb-212+	$1 \times 10^1$	$1 \times 10^5$
Bi-206	$1 \times 10^1$	$1 \times 10^5$
Bi-207	$1 \times 10^1$	$1 \times 10^6$
Bi-210	$1 \times 10^3$	$1 \times 10^6$

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<sup>1</sup> Potassium salts in quantities less than 1000kg are exempted.

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**Changes to legislation:** There are currently no known outstanding effects for the The Environmental Authorisations (Scotland) Regulations 2018, SCHEDULE 9. (See end of Document for details)

Bi-212+	$1 \times 10^1$	$1 \times 10^5$
Po-203	$1 \times 10^1$	$1 \times 10^6$
Po-205	$1 \times 10^1$	$1 \times 10^6$
Po-207	$1 \times 10^1$	$1 \times 10^6$
Po-210	$1 \times 10^1$	$1 \times 10^4$
At-211	$1 \times 10^3$	$1 \times 10^7$
Rn-220+	$1 \times 10^4$	$1 \times 10^7$
Rn-222+	$1 \times 10^1$	$1 \times 10^8$
Ra-223+	$1 \times 10^2$	$1 \times 10^5$
Ra-224+	$1 \times 10^1$	$1 \times 10^1$
Ra-225	$1 \times 10^2$	$1 \times 10^5$
Ra-226+	$1 \times 10^1$	$1 \times 10^4$
Ra-227	$1 \times 10^2$	$1 \times 10^6$
Ra-228+	$1 \times 10^1$	$1 \times 10^5$
Ac-228	$1 \times 10^1$	$1 \times 10^6$
Th-226+	$1 \times 10^3$	$1 \times 10^7$
Th-227	$1 \times 10^1$	$1 \times 10^4$
Th-228+	$1 \times 10^0$	$1 \times 10^4$
Th-229+	$1 \times 10^0$	$1 \times 10^3$
Th-230	$1 \times 10^0$	$1 \times 10^1$
Th-231	$1 \times 10^3$	$1 \times 10^7$
Th-234+	$1 \times 10^3$	$1 \times 10^5$
Pa-230	$1 \times 10^1$	$1 \times 10^6$
Pa-231	$1 \times 10^0$	$1 \times 10^3$
Pa-233	$1 \times 10^2$	$1 \times 10^7$
U-230	$1 \times 10^1$	$1 \times 10^5$
U-231	$1 \times 10^2$	$1 \times 10^7$
U-232+	$1 \times 10^0$	$1 \times 10^3$
U-233	$1 \times 10^1$	$1 \times 10^4$

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<sup>1</sup> Potassium salts in quantities less than 1000kg are exempted.

<sup>2</sup> National Radiological Protection Board, Didcot (United Kingdom) 1999.

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**Changes to legislation:** There are currently no known outstanding effects for the The Environmental Authorisations (Scotland) Regulations 2018, SCHEDULE 9. (See end of Document for details)

U-234	$1 \times 10^1$	$1 \times 10^4$
U-235+	$1 \times 10^1$	$1 \times 10^4$
U-236	$1 \times 10^1$	$1 \times 10^4$
U-237	$1 \times 10^2$	$1 \times 10^6$
U-238+	$1 \times 10^1$	$1 \times 10^4$
U-239	$1 \times 10^2$	$1 \times 10^6$
U-240	$1 \times 10^3$	$1 \times 10^7$
U-240+	$1 \times 10^1$	$1 \times 10^6$
Np-237+	$1 \times 10^0$	$1 \times 10^3$
Np-239	$1 \times 10^2$	$1 \times 10^7$
Np-240	$1 \times 10^1$	$1 \times 10^6$
Pu-234	$1 \times 10^2$	$1 \times 10^7$
Pu-235	$1 \times 10^2$	$1 \times 10^7$
Pu-236	$1 \times 10^1$	$1 \times 10^4$
Pu-237	$1 \times 10^3$	$1 \times 10^7$
Pu-238	$1 \times 10^0$	$1 \times 10^4$
Pu-239	$1 \times 10^0$	$1 \times 10^4$
Pu-240	$1 \times 10^0$	$1 \times 10^3$
Pu-241	$1 \times 10^2$	$1 \times 10^5$
Pu-242	$1 \times 10^0$	$1 \times 10^4$
Pu-243	$1 \times 10^3$	$1 \times 10^7$
Pu-244	$1 \times 10^0$	$1 \times 10^4$
Am-241	$1 \times 10^0$	$1 \times 10^4$
Am-242	$1 \times 10^3$	$1 \times 10^6$
Am-242m+	$1 \times 10^0$	$1 \times 10^4$
Am-243+	$1 \times 10^0$	$1 \times 10^3$
Cm-242	$1 \times 10^2$	$1 \times 10^5$
Cm-243	$1 \times 10^0$	$1 \times 10^4$
Cm-244	$1 \times 10^1$	$1 \times 10^4$

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<sup>1</sup> Potassium salts in quantities less than 1000kg are exempted.

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**Changes to legislation:** There are currently no known outstanding effects for the The Environmental Authorisations (Scotland) Regulations 2018, SCHEDULE 9. (See end of Document for details)

Cm-245	$1 \times 10^0$	$1 \times 10^3$
Cm-246	$1 \times 10^0$	$1 \times 10^3$
Cm-247	$1 \times 10^0$	$1 \times 10^4$
Cm-248	$1 \times 10^0$	$1 \times 10^3$
Bk-249	$1 \times 10^3$	$1 \times 10^6$
Cf-246	$1 \times 10^3$	$1 \times 10^6$
Cf-248	$1 \times 10^1$	$1 \times 10^4$
Cf-249	$1 \times 10^0$	$1 \times 10^3$
Cf-250	$1 \times 10^1$	$1 \times 10^4$
Cf-251	$1 \times 10^0$	$1 \times 10^3$
Cf-252	$1 \times 10^1$	$1 \times 10^4$
Cf-253	$1 \times 10^2$	$1 \times 10^5$
Cf-254	$1 \times 10^0$	$1 \times 10^3$
Es-253	$1 \times 10^2$	$1 \times 10^5$
Es-254	$1 \times 10^1$	$1 \times 10^4$
Es-254m	$1 \times 10^2$	$1 \times 10^6$
Fm-254	$1 \times 10^4$	$1 \times 10^7$
Fm-255	$1 \times 10^3$	$1 \times 10^6$
Any other radionuclide that is—	$10^3$ , or the quantity given in respect of that radionuclide in the Health Protection Agency's publication "Exempt Concentrations and Quantities for Radionuclides not included in the European Basic Safety Standards Directive" <sup>2</sup> .	1, or the concentration given in respect of that radionuclide in the document referenced in column 2.
(a) (a) not of natural terrestrial cosmic origin; or		
(b) listed in Table 1 of schedule 8.		

<sup>1</sup> Potassium salts in quantities less than 1000kg are exempted.

<sup>2</sup> National Radiological Protection Board, Didcot (United Kingdom) 1999.

The summation rule in respect of column 2 of Table 2 is the sum of the quotients A/B where—

- (a) "A" means the concentration of each radionuclide listed in column 1 of Table 2 that is present in the radioactive material or radioactive waste; and
- (b) "B" means the concentration of that radionuclide specified in column 2 of Table 2.

The summation rule in respect of column 3 of Table 2 is the sum of the quotients C/D where—

- (a) “C” means the quantity of each radionuclide listed in column 1 of Table 2 that is present in the radioactive material or radioactive waste; and
- (b) “D” means the quantity of that radionuclide specified in column 3 of Table 2.

+Parent radionuclides, and their progeny whose dose contributions are taken into account in the dose calculation (thus requiring only the exemption level of the parent radionuclide to be considered), are listed in the following:

<i>Parent radionuclide</i>	<i>Progeny</i>
Sr-90	Y-90
Zr-93	Nb-93m
Zr-97	Nb-97
Ru-106	Rh-106
Ag-108m	Ag-108
Cs-137	Ba-137m
Ba-140	La-140
Ce-144	Pr-144
Pb-210	Bi-210, Po-210
Pb-212	Bi-212, Tl-208 (0.36), Po-212 (0.64)
Bi-212	Tl-208 (0.36), Po-212 (0.64)
Rn-220	Po-216
Rn-222	Po-218, Pb-214, Bi-214, Po-214
Ra-223	Rn-219, Po-215, Pb-211, Bi-211, Tl-207
Ra-224	Rn-220, Po-216, Pb-212, Bi-212, Tl-208 (0.36), Po-212 (0.64)
Ra-226	Rn-222, Po-218, Pb-214, Bi-214, Po-214, Pb-210, Bi-210, Po-210
Ra-228	Ac-228
Th-226	Ra-222, Rn-218, Po-214
Th-228	Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Tl-208 (0.36), Po-212 (0.64)
Th-229	Ra-225, Ac-225, Fr-221, At-217, Bi-213, Po-213, Pb-209
Th-234	Pa-234 m
U-230	Th-226, Ra-222, Rn-218, Po-214
U-232	Th-228, Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Tl-208 (0.36), Po-212 (0.64)
U-235	Th-231
U-238	Th-234, Pa-234m

**Changes to legislation:** There are currently no known outstanding effects for the The Environmental Authorisations (Scotland) Regulations 2018, SCHEDULE 9. (See end of Document for details)

U-240	Np-240 m
Np237	Pa-233
Am-242m	Am-242
Am-243	Np-239

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**Changes to legislation:**

There are currently no known outstanding effects for the The Environmental Authorisations (Scotland) Regulations 2018, SCHEDULE 9.