 **Risk Assessment – Ionising Radiations**

**Risk Assessment Number:**

**Description of work:**

|  |  |
| --- | --- |
| **Source of ionising radiation** |  |
| **Major emissions and their energies** |  |
| **Nature of staff exposure risk** |  |
| **Likely staff at risk** |  |
| **Radiation employees annual dose limit(s)** | Whole-body dose = 20 mSv  Investigation level = 2 mSv  Target level < 1 mSv |
| **Physical half life, Tphys, of radioisotope** |  |
| **Biological half life Tb** |  |
| **Teff of radioisotope (days)** |  |
| **Dose rate calculations**  **External** |  |
| **Dose rate calculations**  **Internal** |  |
| **Internal routes of entry** |  |
| **Open bench?** |  |

|  |  |
| --- | --- |
| **Estimated dose-rate to hands per experiment for unshielded source.**  **Beta exposure** |  |
| **Estimated Bremsstrahlung from shielding** |  |
| **Estimated external dose-rates per experiment for unshielded source.**  **Gamma exposure** |  |
| **Shielding Requirements** |  |
| **PPE requirements** |  |
| **Dosimeter requirements** |  |
| **Assessment of risk if all protocols, shielding and PPE applied** |  |
| **Population odds from whole body annual exposure** |  |

|  |  |
| --- | --- |
| **BERT from whole body annual exposure** |  |

If the risk is medium or high, are there any ALARP measures that may be improved ie:

|  |  |  |
| --- | --- | --- |
|  | **Yes** | **No** |
| **Time** |  |  |
| **Distance** |  |  |
| **Shielding** |  |  |

1 Is it possible to reduce the amount of radioactivity used? Yes/No

2 Is additional training or supervision required? Yes/No

3 Will it be necessary to "classify" the worker? Yes/No

4 Should the worker work only in a 'controlled' radiation area? Yes/No

ADDITIONAL CONTROLS

1 Are departmental contamination surveys carried out? Yes/No

2 Are portable contamination monitors tested annually? Yes/No

3 Are personal dosimeters required? Yes/No

4 Have all measures been taken to ensure that radionuclides are

stored safety and securely when not in use? Yes/No

|  |  |
| --- | --- |
| **Date of assessment** |  |
| **Signature** |  |
|  |  |
| **Reviewed by** |  |
| **Date** |  |

*Note 1 The Risk Assessor should normally be the laboratory supervisor but some departments prefer the Departmental Radiation Protection Supervisor to do carry out this task for consistency in risk assessments.*

*Note 2 Identify whether a COSHH risk assessment is also required.*

*Note 3 Personnel who might be at risk:*

*1 Registered radiation workers*

*2 Other non-radiation workers who share the same laboratory*

*3 Cleaners*

*4 Maintenance staff*

*5 Contractors*

*6 Visitors*

*7 Undergraduate students*

*8 Members of the general public*

*9 Others*

SUMMARY

Risk assessment is a five step process:

1 Identify the potential hazards

2 Decide who might be harmed and how

3 Evaluate the risks and decide whether existing precautions are adequate

4 Record your findings (ie on this form)

5 Review the assessment periodically and revise if necessary.

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| **Notes: This risk assessment should be read in conjunction with the appropriate System of Work** |