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|  | Health & Safety  radioactive material risk assessment Form |

| Ra No.: | Date: | Version No.: | Review Date: | Authorised by: |
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| STEP 1 – ENTER INFORMATION ABOUT THE ACTIVITY/TASK, ITS LOCATION AND THE PEOPLE COMPLETING THE RISK ASSESSMENT |
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| Location name: | Building No.: | Room No.: | Date: | Assessed by: | HSR/Employee representative: |
| Radioactive material being used: | | Radioactive material physical state:  Gas  Liquid  Solid | | | |
| **Detail the properties of the radioactive material:**  Activity (Bq):        Activity concentration (Bq/g):  Energy (eV):        Half-life:  Decay mode:  Beta  Alpha  Gamma  X-ray  Neutron | | **Shielding requirements of the radioactive material:**  Nil  Perspex  Lead  Other: | | | |
| **Monitoring requirements of the radioactive material:**  Personal dosimetry  Survey meter  Dose meter  Other: | | | |
| **Licensing requirements:** | | **Disposal Requirements:**  Dilution and dispersion  Delay and Decay  Concentration and containment | | | |
| Description of the how the radioactive material is being used (the activity/work using the radioactive material) | | | | | |
| Workplace conditions (Describe layout and physical conditions - including access and egress) | | | | | |

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| List systems of work for the radioactive material:  ● Training ● SOPs  ● Manufacturer’s information and instructions ● Inspections  ● Security requirements ● Licensing  ● Emergency situations |  |
| Is there past experience or background material/requirements with the radioactive material that may assist in the assessment?  ● Existing controls ● SOPs ● Standards  ● Industry standards ● Incidents & near-hits ● Legislation and Codes  ● Training ● Incident Investigation ● Guidance material  ● Emergency situations |  |

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| Step 2: Select a Risk Rating Method |

Two Variable Risk Matrix

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| (1) Definitions of likelihood labels | | | |
| Level | Likelihood (Probability) | | |
| Descriptor | Description | Expected to occur |
| A | Almost certain | The event will occur on an annual basis | Once a year or more |
| B | Likely | The event has occurred several times or more in your career | Once every three years |
| C | Possible | The event might occur once in your career | Once every 10 years |
| D | Unlikely | The event does occur somewhere from time to time | Once every 30 years |
| E | Rare | Heard of something like the event occurring elsewhere | Once every 100 years |

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| (2) Definitions of consequence labels | |
| Severity level | Consequences |
| V Catastrophe | One or more fatalities and/or severe irreversible disability to one or more people |
| IV Major | Extensive injury or impairment to one or more persons |
| III Moderate | Short term disability to one or more persons |
| II Insignificant | Medical treatment and/or lost injury time <2 weeks |
| I Negligible | First aid treatment or no treatment required |

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| (3) Risk rating matrix | | | | | |
| Likelihood  label | Consequence label | | | | |
| I | II | III | IV | V |
| A | Medium | High | High | Very high | Very high |
| B | Medium | Medium | High | High | Very high |
| C | Low | Medium | High | High | High |
| D | Low | Low | Medium | Medium | High |
| E | Low | Low | Medium | Medium | High |

Three Variable Risk Calculator

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| (1) Definitions of exposure variables | |
| Exposure | E |
| Continuously or many times daily | 10 |
| Frequently: Approximately once daily | 6 |
| Occasionally: Once a week to once a month | 3 |
| Infrequently: Once a month to once a year | 2 |
| Rarely: Has been known to occur | 1 |
| Very rarely: Not known to have occurred | 0.5 |

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| (2) Definitions of likelihood variables | |
| Likelihood | L |
| Almost certain: The most likely outcome if the event occurs | 10 |
| Likely: Not unusual, perhaps 50-50 chance | 6 |
| Unusual but possible: (e.g. 1 in 10) | 3 |
| Remotely possible: A possible coincidence (e.g. 1 in 100) | 1 |
| Conceivable: Has never happened in years of exposure, but possible (eg 1 in 1,000) | 0.5 |
| Practically impossible: Not to knowledge ever happened anywhere (e.g. 1 in 10,000) | 0. 1 |

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| (3) Definitions of consequence variables | |
| Consequences | C |
| Catastrophe: Multiple fatalities | 100 |
| Disaster: Fatality | 50 |
| Very serious: Permanent disability/ill health | 25 |
| Serious: Non-permanent injury or ill health | 15 |
| Important: Medical attention needed | 5 |
| Noticeable: Minor cuts and bruises or sickness | 1 |

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| (4) Risk score calculator | |
| Risk Score = E x L x C | |
| Risk score | Risk rating |
| > 600 | Very high |
| 300 - 599 | High |
| 90 - 299 | Medium |
| < 90 | Low |

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| STEP 3 – Identify hazards and associated risk Scores and controls | |
| For each of the following prompts:   * **Review the prompts/examples** for each hazard category that may potentially exist for the activity/task; * Determine and record a **raw risk score** by referencing the two variable risk matrix or the three variable risk calculator; * In the **comments** box, describe when and where the hazard is present; * Specify the risk **control type**, for each current or proposed risk control; * Provide a **control description** for each current or proposed risk control; * Where **proposed risk control(s)** have been identified complete a [**Health & Safety Action Plan**](http://safety.unimelb.edu.au/docs/health-and-safety-action-plan.docx); * Determine the **residual risk score** referencing the same two variable risk matrix or three variable risk calculator used to determine the raw risk score | Hierarchy of Control (Control Type)  El – Elimination  S – Substitution  En – Engineering Is – Isolation G – Guarding  Sh – Shielding  A – Administrative T – Training In – Inspection  M – Monitoring H – Health Monitoring  P – PPE |

| Category | Raw Risk score | Comments (when and where hazard is present) | Control type | Control description  (Current And Proposed | Residual Risk Score |
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| Purchasing/receipt of radioactive material |  |  |  |  |  |
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| Use/activity: |  |  |  |  |  |
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| Storage: |  |  |  |  |  |
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| Disposal: |  |  |  |  |  |
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| Other: |  |  |  |  |  |
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| STEP 4 – ImpleMEntation and consultation process | | | | |
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| Determine the person responsible for reviewing and implementing the risk assessment including the identified controls. Ensure a [**Health & Safety Action Plan**](http://safety.unimelb.edu.au/docs/health-and-safety-action-plan.docx) has been completed, reviewed and signed off where proposed controls have been identified.  Obtain the authorisation of the management representative.  Ensure the DRSO has been consulted. Ensure the HSR (if applicable) has been consulted. Ensure the employees undertaking the activity have been consulted.  **Record below the names of the persons consulted.** | | | | |
| Research Group Leader |  | | HSR/Employee representative |  |
| DRSO |  | | Employee(s) |  |
| Employee(s) |  | | Employee(s) |  |
| Person Responsible for implementation or escalation | |  | | |

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| Extra writing room - use this page to enter extended comments or descriptions |
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For use in conjunction with the *OHS risk management procedure* and the *Ionising radiation risk management procedure*.

For further information, refer to <http://safety.unimelb.edu.au/tools/risk/> or contact your local [DRSO](http://safety.unimelb.edu.au/topics/radiation/drso/) or your [Local Health & Safety contact](https://safety.unimelb.edu.au/about/contacts/local.html)