**Faculty of Health and Wellbeing**

**Biosciences and Chemistry**

**OPERATIONAL RISK ASSESSMENT**

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| Title: | **OFF SITE - TRANSPORTATION OF CHEMICALS / BIOHAZARDS / HUMAN TISSUE / WASTE & PROCUREMENT OF GOODS / SERVICES** | | |
| RA code: | **RA-203-04** | Date: | **18/06/2019** |
| Author: | **N Tattersall / Dan English** | Review: | **Annual** |

### Description of the Process / Activity

*Driving university owned vehicle on public roads to various destinations to deliver or collect chemicals and reagents / biohazards / human tissue / waste / equipment.*

*Hire vehicles will be used if the university vehicle is not available.*

*Travel by taxi to various destinations to deliver or collect biohazards / human tissue.*

*Travel by foot in the local area to collect biohazards / human tissue / reagents such as household food items.*

*Packing/unpacking of Human Tissue samples*

*Technical staff purchasing/obtaining items and services from outside SHU boundaries for use in the biosciences and chemistry teaching programme.*

**Location(s)**

*Items transported by foot would only be collected / delivered locally (e.g. University of Sheffield - Biological services, Sheffield Teaching hospitals or local shops)*

*Journeys by university owned vehicle are likely to start on the goods road (Surrey lane), journeys by taxi will start on Howard Street, going to various public destinations.*

*Car hire usually starts on Howard Street (outside The Globe) and ends at the car hire depot. The member of staff will proceed on foot back to SHU.*

**Scope and restrictions**

*Work to be undertaken by technical staff and/or BMRC researchers (students or staff)*

*Work to be undertaken during normal working hours for technical staff, but could be undertaken out of hours for researchers.*

*Technical staff and researchers may carry out the activity as lone working, therefore a mobile phone must be taken.*

*Technical staff must complete 'Authority to drive application form' and be on the University Insured Driver Database to drive a SHU vehicle.*

*Only STO may book taxis.*

*Work experience students should not transport any goods off site.*

*Placement students may transport goods off site by taxi.*

*This does not cover the use of a third party for transportation of tissue.*

###### Responsibilities

*It is the responsibility of all staff and students to behave in a professional manner when travelling or dealing with the public, on behalf of Sheffield Hallam University.*

*It is the responsibility of all staff and students to take appropriate care when travelling and, where foreseeable, to not put themselves in dangerous situations unnecessarily.*

*Director of studies has responsibility for students carrying out this activity.*

*Grade 5 procurement officer is responsible for arranging the collections of material from the abattoir and the booking of the van.*

*Grade 4 General assistants collect rat tissue from Sheffield University and blood from the Northern General hospital.*

*Any member of Technical staff may transport blood agar plates between campuses.*

*Report departure and return to STO/team leader/Director of studies.*

*It is the responsibility of anyone transporting items off site to report any issues to an STO/Team Leader/Director of Studies*

*Transportation of Human Tissue must be in accordance with the Human Tissue Act codes of practice.*

*The work involves public places so if an accident occurs away from the University call the emergency services on 999.*

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| Definitions | |
| *STO* | *Senior technical officer* |
| *SHU* | *Sheffield Hallam University* |
| *RA* | *Risk assessment* |
| *SOP* | *Standard operating procedure* |
| *HT* | *Human Tissue* |
| *HTA* | *Human Tissue Act* |

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| **Documents referred to in this RA** | **Code** | **Type of document *e.g. SOP, risk assessment, QMS*** |
| *Decontamination of a biohazardous spillage* | *SOP 200* | *SOP* |
| *Cleaning and housekeeping of specialist spaces* | *RA 101* | *Risk assessment* |
| *Clearing up a chemical / biohazardous / GM / radioactive / broken glass spill* | *RA 201* | *Risk assessment* |
| *Handling and use of chemicals / biohazards / isotopes* | *RA 204* | *Risk assessment* |
| *Manual Handling / moving bench equipment /Setting up a lab class* | *RA 301* | *Risk assessment* |
| *Lone working and personal safety* | *RA 603* | *Risk assessment* |
| *HT code of practice* | *A and E* | *Human Tissue Authority documents* |

**For further details and safety information on specific procedures relevant to the scope of this risk assessment refer to the following SOP's.**

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| **Code** | **Document** |
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| **Reviews** | | | | |
| **Date** | **Version** | **Changes** | **Reviewer name** | **Approver name** |
| *18/6/2019* | *02* | *Addition of the transportation of Human Tissue as an offsite activity. This affects multiple sections of this RA.*  *Changing the use of vinyl gloves to nitrile gloves in the PPE section.* | *Karen Bailey-Smith* | *Jim Booth* |
| *13-08-2019* | *03* | *Updates in Hazardous substances section. Amendments to the RA numbers referenced in the same section.* | *Kay Simmonite* | *Jim Booth* |
| *13/03/2023* | *04* | *Updates in human tissue disposal and storage section* | *Celine Souilhol* |  |
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**Risk Levels use this to determine the risks in the Hazards and Safety Precautions table**

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| **LIKELIHOOD** | | | | | | | |
| **SEVERITY** |  | | **1** | **2** | **3** | **4** | **5** |
| Highly unlikely that incident will occur | Not likely that incident will occur | Possible that incident could occur | Likely that incident will occur | Incident will occur frequently |
| **1** | No first aid required | **LOW** | **LOW** | **MEDIUM** | **MEDIUM** | **HIGH** |
| **2** | First aid required but no absence from work | **LOW** | **MEDIUM** | **MEDIUM** | **HIGH** | **EXTREME** |
| **3** | Injury results in less than 7 days absence from work | **MEDIUM** | **MEDIUM** | **HIGH** | **EXTREME** | **EXTREME** |
| **4** | Injury results in more than 7 days absence from work (including death) | **MEDIUM** | **HIGH** | **EXTREME** | **EXTREME** | **EXTREME** |
| **5** | Multiple fatalities | **HIGH** | **HIGH** | **EXTREME** | **EXTREME** | **EXTREME** |

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| **LOW** | **Monitor** the risks and the control measures |
| **MEDIUM** | **Monitor** the risks and maintain strict control measures. Activity may not suitable for lone workers |
| **HIGH** | Introduce further controls to **lower the risk**. Re-assess before proceeding |
| **EXTREME** | **DO NOT PROCEED**. Introduce further controls to lower the risk. Re-assess before proceeding |

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| **Hazards and Safety Precautions** | | | | | | | | |
| Hazard | Who could be harmed? | Existing safety precautions | Risk level | Additional safety precautions needed to reduce the risk level? | Revised risk level | Action by whom? | By when? | Date completed |
| ***Hazardous chemical / biological substances/Human Tissue or spillages***  *e.g. Blood leakage from organs collected from abattoir.*  *Cleaning products.*  *Leakage from Human Tissue sample* | *Technical staff/*  *Researchers* | Follow procedures outlined in: ***Cleaning and housekeeping of specialist spaces RA 101***  Follow procedures outlined in: ***Clearing up a chemical / biohazardous / GM / radioactive / broken glass spill RA 201***  Follow procedures outlined in: ***Handling and use of chemicals / biohazards / isotopes RA 204***  ***Decontamination of a biohazardous spillage******SOP 200***  ***Inclusion of the details of the Human tissue in the researchers experimental risk assessment.***  ***Research students to receive training and supervision from their director of studies.***  ***Samples are only to be obtained through approved SHU procurement routes and must be logged on the Human Tissue log when brought into SHU.***  Wear the appropriate PPE. | *LOW* | *None* | *LOW* | *N/A* | *N/A* | *N/A* |
| ***Manual handling***  *e.g. Moving goods to put in van / taxi.*  *Carrying shopping*  *Moving heavy or awkward objects.* | *Technical staff* | Follow procedures outlined in: ***Manual Handling / moving bench equipment /Setting up a lab class RA 301***  *Attend manual handling training course.*  *Use wheeled trolley if needed.*  *Make multiple trips if required.* | *LOW* | *None* | *LOW* | *N/A* | *N/A* | *N/A* |
| ***Lone working/personal safety*** | *Technical staff* | *Tell Team Leader/ STO when you leave the premises and when you expect to return. Leave a mobile phone number with an STO & carry a mobile phone.*  *Attend lone working training course.*  Follow procedures outlined in: ***Lone working and Personal safety***  ***RA 603*** | *LOW* | *None* | *LOW* | *N/A* | *N/A* | *N/A* |
| ***Emergency off site situations such as fire.*** | *Technical staff* | *No specific precautions are required. Staff should follow any guidance provided by the site.* | *LOW* | *None* | *LOW* | *N/A* | *N/A* | *N/A* |
| ***Weather, wind, frost, ice, snow***  *Slips, trips, falls*  *Hot, cold temperatures.* | *Technical staff* | *Correct appropriate PPE is provided and should be worn when required.*  *Padded vests and jackets are available from the Prep Room Owen 840.*  *Minimise time exposed to adverse weather conditions.*  *Assess actual need for task.*  *Use alternative routes if possible.*  *Request that FD/estates make routes safer to use.* | *LOW* | *None* | *LOW* | *N/A* | *N/A* | *N/A* |
| ***Low visibility, darkness, night, fog***  *Vehicles, dangers caused by not being clearly seen.* | *Technical staff* | *High visibility jackets to be worn at all times*  *Beware of your surroundings when crossing the goods road.*  *Use of road safety awareness.*  *Do not access the goods road in the dark.* | *LOW* | *None* | *LOW* | *N/A* | *N/A* | *N/A* |
| ***Traffic***  *Vehicular collisions* | *Technical staff* | *High visibility jackets to be worn at all times*  *Use of road safety awareness.*  *Do not access the goods road in the dark.*  *Use pedestrian crossings.*  *Wear appropriate clothing*  *Be aware of members of the public, motorists and cyclists.* | *LOW* | *None* | *LOW* | *N/A* | *N/A* | *N/A* |
| ***The public***  *Threats, verbal abuse, physical violence* *or acts of aggression* | *Technical staff* | *No specific precautions are required. Staff should choose appropriate well-lit routes.*  *Report any acts of aggression to local managers immediately.* | *LOW* | *None* | *LOW* | *N/A* | *N/A* | *N/A* |
| ***Outdoor surfaces & routes***  *Potholes, curbs, tarmac* | *Technical staff* | *Use of appropriate footwear and exercising reasonable care especially when wet.*  *No specific precautions are required. Staff should choose appropriate routes to avoid sites with obstacles or slippery surfaces.*  *First aid system in place.* |  |  |  |  |  |  |

**Hazards may include:**

**Hazardous substances (chemicals, biohazards, gases, radionuclides), physical environment, machinery and equipment, manual handling, lone working, personal safety, travel and pedestrian safety, working at height, slips and trips, fire safety, off-site activities**

| **Hazardous substances** | | | | | |
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| **Hazardous Substance** | **Quantity** | **Hazards** | **Storage** | **Disposal** | **Emergency procedures** |
| ***Biohazards / human tissue***  *e.g Rats, organs from the abattoir, blood from the Northern General hospital* | *various* | *Biohazard / Potential biohazard*  *Unscreened tissue - Viral or bacterial contamination.* | *In transit - leak proof plastic container, preferably a cool box.*  *Welll-sealed boxes of dry ice must be used to transport human tissue in a car.* | *For animal tissue: Tissue disposal freezer in BMRC 713.*  *For human tissue: Follow procedures outlined in SOP Human tissue disposal at SHU.*  *Disposal of human tissue needs to be reported on the Human Tissue Log.* | *Report any issues immediately to local managers, for advice and recommended procedures to follow.*  Follow procedures outlined in:  ***Transportation of chemicals / biohazards / waste (on site) RA202***  ***Handling and use of chemicals / biohazards / isotopes RA204***  ***Clearing up a chemical / biohazardous / GM / radioactive / broken glass spill RA201*** |
| ***Chemicals*** *- various* | *Various* | *Potentially toxic, potentially flammable, potentially harmful to the environment.* | *In transit - segregate by chemical compatibility in leak proof plastic containers.* | *Specialist chemical waste* |
| ***Waste***  *e.g. Clinical waste bins, solvent waste, specialist chemical waste, biohazardous waste* | *Various* | *Potentially toxic, potentially flammable, potentially harmful to the environment. Potential biohazard* | *In transit - segregate by chemical compatibility in leak proof plastic containers.* | *Specialist chemical waste,*  *yellow bin or tissue disposal freezer as appropriate.* |
| ***Dry Ice*** | *Max 2.5kg* | *Asphyxiation. Causes severe skin burns and/or frostbite from the extreme cold.* | *Purchase from external supplier the day before required and keep in -80 freezer. Use an appropriate ice/coolbox.* | *Leave to evaporate in a well ventilated area. Do not add water.* | ***If in contact with skin contact a first aider. If breathing becomes difficult, move to a well ventilated area and seek medical advice. Move the dry ice to a well ventilated area as well.*** |

**Personal Protective Equipment – in addition to lab coats which must always be worn**

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| **Outline stage of the process that PPE is required** | **Gloves**  ***(Tick appropriate box)*** | | | | | **Eye/Face protection**  ***(Tick appropriate box)*** | | | | **Clothing**  ***(Tick appropriate box)*** | | | |
| **Nitrile**  **(EN374-2, EN374-3)** | **Vinyl**  **(EN455)** | **Cryo**  **(EN511)** | **Heatproof**  **(EN388, EN407)** | **Leather**  **(EN388, EN511,EN420)** | **Goggles**  **(D166 - 349B)** | **Safety glasses**  **(EN166 1F)** | **Face visor (UV)**  **EN166 1-F3, EN166 389 BTS** | **Face Visor (N2)**  **EN166 1-F3, EN166 389 BTS** | **Safety shoes**  **(EN345-1)** | **Aprons**  **(No BSEN number)** | **High vis coat/vest**  **(EN471 class2)** | **Ear defenders**  **(EN352)** |
| *Cleaning up a spillage* | ✓ |  |  |  |  |  | ✓ |  |  |  |  |  |  |
| *Moving around on the goods road* |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |
| *Handling biological material* | ✓ |  |  |  |  |  | ✓ |  |  |  |  |  |  |
| Handling dry ice | ✓ |  | ✓ |  |  |  | ✓ |  |  |  |  |  |  |
| *Additional information*: | | | | | | | | | | | | | |

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| Can the method of work be changed so that the operation no longer presents any risk? | |
| NO | *If Yes, give details*: |

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| Are any additional measures required to exclude non-essential personnel from the area, *e.g.* doors locked, local supervision, signs *etc*? | |
| YES | *If Yes, give details*:  Human tissue must be segregated from other samples and kept in safe and secured storage space, locked when possible. The 714/-80/4freezer has a padlock and the 1236/-80/1 freezer has restricted access. Level 7 of the Research centre is behind magna lock doors. |

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| Communication of significant findings | | |
| Method of communication (describe):  *E-mail / telephone* | Person/people to communicate findings:  *Person carrying out the transportation of chemicals / biohazards / human tissue / waste / equipment, to notify STO or Team Leader of any issues.* | Target date(s):  *ASAP* |

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| Comments or questions relating to the information covered in this RA.  For the attention of operational risk assessment coordinator. |
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| Title: | **OFF SITE - TRANSPORTATION OF CHEMICALS / BIOHAZARDS / HUMAN TISSUE / WASTE & PROCUREMENT OF GOODS / SERVICES** |
| RA code: | **RA-203-02** |

**Declaration: I have read, understood and will comply with the safety precautions outlined above**

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