# Environmental Risk Assessment

The waste operations of storage and transfer of spent activated carbon are carried out at Monksbridge Rd, Dinnington, Sheffield.

This Environmental Risk Assessment is based off the following Site conditions and receptors:

* + - The wider land use surrounding the Site is predominantly industrial estate with some residential
    - The nearest residential housing is approximately 50m from the Site.
    - The Site is located on impermeable concrete surfacing.
    - There is a dyke which runs through the centre of the site
    - The Great Crested Newt has been found to be inhabiting the dyke area

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| Receptor | Source | Harm | Pathway | Probability of occurring | Consequence | Magnitude of risk | Justification for magnitude | Risk Management | Residual risk |
| Local human population | Releases of particulate matter (dusts) and infectious micro- organisms (bioaerosols). | Harm to human health - respiratory irritation and illness.  Nuisance dust | Air transport then inhalation /deposition | Low | Medium | ELow | The is negligible risk of dust generation from the waste activities proposed. | Dusty waste will not be accepted to site.  All waste will be securely bagged. | Negligible |
| Local human population, livestock and wildlife | Litter | Nuisance, loss of amenity and harm to animal health | Air transport then deposition. | Low | Medium | Low | The waste types have low litter potential. | All waste will be securely bagged | Negligible |
| Local human population | Waste, litter and mud on local roads | Nuisance, loss of amenity, road traffic accidents. | Vehicles entering and leaving site. | Low | Low | Low | Road safety, local residents are often sensitive to mud on roads.  Waste does not pose a risk of mud | Vehicles and sites are by their nature likely to be sited in industrial areas and thus paved.  Vehicle movements will be daily rather than hourly. | Very low |
| Local human population | Odour | Nuisance, loss of amenity. | Air transport then inhalation. | Medium | Medium | Low | Waste has potential for odour. | The waste arrives on Site steel vessel  The containment of the waste will provide mitigation against odour. | Low |

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| Local human population | Odour | Nuisance, loss of amenity. | Air transport then inhalation. | Medium | Medium | Low | Waste has potential for odour. | The waste arrives on Site bagged and is stored the containment of the waste will provide mitigation against odour. | Low |
| Local human population | Noise and vibration | Nuisance, loss of amenity, loss of sleep. | Noise through the air and vibration through the ground. | Low | Medium | Low | Local residents are often sensitive to noise and vibration.  Waste activities are unlikely to produce noise. The site will employ a no idling policy. | Vehicles accessing the site will be well maintained to reduce the production of excessive noise from vehicle movements. | Low |
| Local human population | Scavenging animals and scavenging birds or pests. | Harm to human health - from waste carried off site. Nuisance and loss of amenity. | Air transport and over land | Low | High | Medium | Permitted waste does not include putrescible materials and therefore unlikely to attract scavenging animals, birds or pests. | All waste will be bagged and in sealed containers.  Sanitary waste will be stored for less than 7 days.  Sharps and medicines will be stored for less than 1 month.  Batteries will be stored for less than 6 months. | Low |

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| Local human population | Scavenging animals and scavenging birds or pests. | Harm to human health - from waste carried off site. Nuisance and loss of amenity. | Air transport and over land | Low | High | Medium | Permitted wastes do not include putrescible materials and therefore unlikely to attract scavenging animals, birds or pests. | All waste will be bagged and in sealed container.  Batteries will be stored for less than 6 months. | Low |
| Local human population | Flooding from site | If waste is washed off site it may contaminate buildings / gardens / natural habitats downstream. | Floodwaters | Low | Medium | Low | Waste is stored in sealed containers | All waste will be bagged | Very low |
| Local human population and / or livestock after gaining unauthorised access to the Waste operation | All on-site hazards: wastes; machinery and vehicles. | Bodily injury | Direct physical contact | Low | Low | Low | No unauthorized access. Plant is secured out of hours. | All waste will be bagged and in sealed containers. | Very low |
| Local human population | Mixing of different spent carbons; hazardous and non-hazardous leading to chemical reactions | Respiratory irritation caused by gasses produced  Contamination | air transport and over land | Low | High | Medium | Spent carbon is handled, sealed and stored separately before the nest one is started | Hazardous and non-hazardous storage areas are separate, All waste is clearly labelled with distinct colours for easy identification  Labelling includes SL number for full traceability. impermeable surface. | Low |

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| Receptor | Source | Harm | Pathway | Probability of occurring | Consequence | Magnitude of risk | Justification for magnitude | Risk Management | Residual risk |
| Local human population and local environment. | Arson and / or vandalism causing the release of polluting materials to air (smoke or fumes), water or land. | Respiratory irritation, illness and nuisance to local population. Injury to staff, firefighters or arsonists/vandals. Pollution of water or land. | Air transport of smoke.  Spillages and contaminated firewater by direct run-off from site and via surface water drains and ditches. | Medium | Medium | Medium | Waste types are stored in bags and are not highly combustible. | Site will be secure at all times.  All waste will be bagged. | Low |
| Local human population and local environment | Accidental fire causes the release of polluting materials to air (smoke or fumes), water or land. | Respiratory irritation, illness and nuisance to local population. Injury to staff or firefighters.  Pollution of water or land. | Air transport of smoke.  Spillages and contaminated firewater by direct run-off from site and via surface water drains and ditches | Low | Medium | Low | Risk of accidental combustion of waste is low. | All waste will be bagged..  Other activities undertaken on the Site do not include fires or hot works. | Low |
| All surface waters close to and downstream of site. | Spillage of liquids, leachate from waste, contaminated rainwater run- off from waste. | Acute effects: oxygen depletion, fish kill and algal blooms  Chronic effects: deterioration of water quality | Direct run-off from site across ground surface, via surface water drains, ditches etc.  Indirect run-off via the soil layer | Low | Medium | Low | A water course is located close to the site.  It is not anticipated that there would be any leachate/run off from the waste.  Waste is contained in sealed bags | All waste will be bagged  Waste will be stored on concrete  The EMS will contain a waste acceptance procedure. This procedure will be implemented to ensure liquid wastes are not accepted onto Site and contravening wastes are removed. | Very low |

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| Receptor | Source | Harm | Pathway | Probability of occurring | Consequence | Magnitude of risk | Justification for magnitude | Risk Management | Residual risk |
| Abstraction from watercourse downstream of facility (for agricultural or potable use). | Spillage of liquids, leachate from waste, contaminated rainwater run- off from waste. | Acute effects, closure of abstraction intakes. | Direct run-off from site across the ground surface, via surface water drains, ditches etc. then abstraction. | Low | Low | Low | It is not anticipated that there would be any leachate/run off from the waste.  Waste is contained in sealed bags | All waste will be bagged  Waste will be stored on concrete  No liquid wastes will be acceped | Very low |
| Groundwater | Spillage of liquids, leachate from waste, contaminated rainwater run- off from waste. | Chronic effects: contamination of groundwater, requiring treatment of water or closure of borehole. | Transport through soil/groundwater then extraction at borehole. | Low | Low | Low | It is not anticipated that there would be any leachate/run off from the waste.  Waste is contained in sealed bags | All waste will be bagged  Waste will be stored on concrete  No liquid wastes will be accepted | Very low |
| Local human population | Contaminated waters used for recreational purposes | Harm to human health - skin damage or gastro-intestinal illness. | Direct contact or ingestion | low | Low | Low | Unlikely due to scale and nature of the wastes stored, containment of the waste and no leachate/run off from the waste. | Waste will be well contained.  The site will be secured to unauthorised human entry. | Very low |
| Protected sites - European sites, SSSIs or nearby SACs, SPAs,  Ramsar Sites, Protected Species or Local Wildlife Sites | Any | Harm to wildlife through toxic contamination, nutrient enrichment, smothering, disturbance, predation etc.  Specifically Lapwing is the only priority species for CS Targeting. Great Crested Newt recently identified in dyke area | Any | Low | Low | Low | It is considered that there would be insignificant harm due to the scale and nature of waste activities and distance to the receptor. | Waste will be well contained. The site will be secured to unauthorized human entry | Very Low |