

The Hub

Advanced material treatment, remediation and recycling technology

Treatment Hub Swansea Environmental Risk Assessment.

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Site Specific Risk Assessment.

Source	Receptor	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification for Magnitude	Risk Management	Residual Risk
Mud and soils	Site operatives, general public & neighbours	Human health issues and nuisance	Vehicles	Medium	Low to High	Medium	Potential offsite pollution	All vehicles cleaned and checked prior to leaving site. Regular use of road sweep to clean service roads Good house keeping	Low

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Source	Receptor	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification for Magnitude	Risk Management	Residual Risk
Hydrocarbons, metals and other potential pollutants associated with imported contaminated soils and wastes	Site operatives, general public & neighbours	Human health issues	Contact, ingestion and inhalation of contaminated soil, dust & vapours.	Low	Low to High	Medium	Short & long term health effects	<u>General Public and neighbours.</u> Site remote from site boundary and enclosed so no risk to general public and neighbours. <u>Site visitors</u> Site visitors will be supervised or be fully inducted. <u>Site Operatives.</u> Induction training. Dust monitoring. (dust suppression if necessary). VOC monitoring. Odour monitoring Wetting soils if necessary. Ensure all operatives use specified PPE. Good personal hygiene and provision of suitable welfare facilities <u>General Risk Management</u> Controlled site access. Good housekeeping.	Low

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Source	Receptor	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification for Magnitude	Risk Management	Residual Risk
Hydrocarbons, metals and other potential pollutants associated with imported contaminated soils and wastes	Underlying soils & groundwater	Contamination of underlying soils / ground water	Migration through ground to underlying soils / aquifer	Low	Low	Low	Effect of contamination on soils & ground water	<u>General Risk Management</u> Integral concrete floor slab Drainage fully assessed and pathways removed. Good housekeeping. Controlled site access.	Low
Hydrocarbons, metals and other potential pollutants associated with imported contaminated soils and wastes	Off-site receptors	Contamination to offsite receptors	Migration across / off site.	Low	Medium	Medium	Contamination affecting general public & neighbours. Contamination affecting soils & groundwater off-site	Clean and check all vehicles / lorries before leaving site. All plant remains on site during works. Clean and check all plant leaving site. Road sweep to keep internal site roads cleans. Good housekeeping.	Low

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Source	Receptor	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification for Magnitude	Risk Management	Residual Risk
Liquid chemical reagents associated with treatment process (spillages or leakage)	Site operative's general public & neighbours	Human health issues	Contact & ingestion of liquids and inhalation of vapours.	Medium	Medium	Medium	Short & long term health effects	<u>General Public and neighbours.</u> Site remote from site boundary and enclosed so no risk to general public and neighbours. <u>Site visitors</u> Site visitors will be supervised or be fully inducted. <u>Site Operatives.</u> Induction training. Ensure all operatives use specified PPE. Good personal hygiene and provision of suitable welfare facilities Ensure all operatives are fully inducted (including COSHH training). <u>General Risk Management</u> Controlled site access. Good housekeeping Correct labelling of products. Provision of chemical storage area. Integral concrete floor slab. Protected drainage. Suitable chemical transfer containers Controlled site access	Low

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Source	Receptor	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification for Magnitude	Risk Management	Residual Risk
Liquid chemical reagents associated with treatment process (spillages or leakage)	Underlying soils & groundwater	Contamination of underlying soils / ground water	Migration through ground to underlying soils / aquifer	Medium	Medium	Medium	Effect of contamination on soils & ground water	Provision of chemical storage area. Integral concrete floor slab. Protected drainage. Suitable chemical transfer containers COSHH & induction training.	Low
Liquid chemical reagents associated with treatment process (spillages or leakage)	Off-site receptors	Contamination to offsite receptors	Migration across / off site.	Low	High	High	Contamination affecting soils & groundwater off-site	Minimal plant entering / exiting site. Clean and check all vehicles / lorries before leaving site. All plant remains on site during works. Clean and check all plant leaving site. Road sweep to keep internal site roads clean. Ensure all operatives are fully inducted (including COSHH training). Good housekeeping.	Low

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Source	Receptor	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification for Magnitude	Risk Management	Residual Risk
Powder chemical reagents associated with treatment process.	Site operatives, general public & neighbours	Human health issues	Contact, ingestion and inhalation of powders / dusts	Medium	Low to Medium	Medium	Short & long term health effects	<u>General Public and neighbours.</u> Site remote from site boundary and enclosed so no risk to general public and neighbours. <u>Site visitors</u> Site visitors will be supervised or be fully inducted. <u>Site Operatives</u> Monitor & minimise dust (see above). Ensure all operatives use specified PPE. Ensure all operatives are fully inducted (including COSHH training). Good personal hygiene and provision of suitable welfare facilities	Low
Powder chemical reagents associated with treatment process.	Underlying soils & groundwater	Contamination of underlying soils / ground water	Migration through ground to underlying soils / aquifer	Low	Low	Low	Effect of contamination on soils & ground water	Provision of chemical storage area. Integral concrete floor slab. Protected drainage. COSHH & induction training.	Low

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Source	Receptor	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification for Magnitude	Risk Management	Residual Risk
Powder chemical reagents associated with treatment process.	Off-site receptors	Contamination to offsite receptors	Migration across / off site.	Low	Low	Low	Environmental risks from contamination are low – nuisance risk only	Minimal plant entering / exiting site. Clean and check all vehicles / lorries before leaving site. All plant remains on site during works. Clean and check all plant leaving site. Road sweep to keep internal site roads clean. Ensure all operatives are fully inducted (including COSHH training). Good housekeeping.	Low

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Source	Receptor	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification for Magnitude	Risk Management	Residual Risk
Products resulting from mixing treatment reagents	Site operatives, general public & neighbours	Human health issues	Contact, ingestion and inhalation of E-Clay slurry / vapours.	Medium	Low	Low	E-Clay is non-hazardous	Ensure all operatives use specified PPE. Undertake induction training. Good personal hygiene and provision of suitable welfare facilities.	Low
Products resulting from mixing treatment reagents	Underlying soils & groundwater	Contamination of underlying soils / ground water	Migration through ground to underlying soils / aquifer	Medium	Low	Low	E-Clay is non-hazardous and is used to treat soils.	Treatment products are non-hazardous. Spillage will be cleaned up. Undertake induction training.	Low
Products resulting from mixing treatment reagents	Off-site receptors	Contamination to offsite receptors	Migration across / off site.	Medium	Medium	Low	Possible transfer off-site	Clean and check all vehicles / lorries before leaving site. All plant remains on site during works. Clean and check all plant leaving site. Road sweep to keep internal site roads cleans. Ensure all operatives are fully inducted (including COSHH training). Good housekeeping.	Low

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Source	Receptor	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification for Magnitude	Risk Management	Residual Risk
Products resulting from treatment process	Site operatives, general public & neighbours	Human health issues	Contact, ingestion and inhalation of treated soils & dusts.	Medium	Low	Low	Post treatment soils are damp minimising potential for dust. Treated material inert.	Dust monitoring. Ensure all operatives use specified PPE.	Low
Products resulting from treatment process	Underlying soils & groundwater	Contamination of underlying soils / ground water	Migration through ground to underlying soils / aquifer	Medium	Low	Low	Treated material chemically inert.	Integral concrete slab Isolated drainage Induction training. Good housekeeping	Low
Products resulting from treatment process	Off-site receptors	Contamination to offsite receptors	Migration across / off site.	Medium	Low	Low	Treated material chemically inert. Nuisance risk	Clean all vehicles / lorries before leaving site. Ensure all operatives are fully inducted (including COSHH training). Good housekeeping. Controlled site access. Road sweep employed	Low

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Source	Receptor	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification for Magnitude	Risk Management	Residual Risk
Refuelling machines & plant	Site operatives, general public & neighbours	Human health issues	Contact & ingestion of liquids and inhalation of vapours.	Low to Medium	Medium	Medium	Short & long term health effects	<u>General Public and neighbours.</u> Site remote from site boundary and enclosed so no risk to general public and neighbours. <u>Site visitors</u> Site visitors will be supervised or be fully inducted. <u>Site Operatives</u> Ensure all operatives use appropriate PPE. COSHH & induction training. Correct labelling of products. Use correct refuelling equipment.	Low
Refuelling machines & plant	Underlying soils & groundwater	Contamination of underlying soils / ground water	Migration through ground to underlying soils / aquifer	Medium	High	High	Effect of contamination on soils & ground water	Integral concrete floor slab Drainage isolated Use of bunded fuel storage containers. COSHH & induction training. Use drip trays. Provision of spill kits.	Low

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Source	Receptor	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification for Magnitude	Risk Management	Residual Risk
Refuelling machines & plant	Off-site receptors	Contamination to offsite receptors	Migration across / off site.	Low	Low	Low	Contamination affecting general public & neighbours.	All fuel storage / refuelling to be undertaken remote from site boundary and enclosed so no risk to general public and neighbours. COSHH & induction training.	Low
Refuelling machines & plant	All receptors	Environmental & health risks	FIRE	Medium	Medium	Medium	Risk of fire during storage and fuelling with flammable liquids	Use correct equipment. Safe storage of fuel. Strict no smoking policy.	Low

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Source	Receptor	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification for Magnitude	Risk Management	Residual Risk
Fire / explosion	All receptors	Environmental & human health risks	FIRE	Negligible	Medium	Medium	Risk associated with release of flammable free product	Flammable soils and wastes not accepted. Fuels correctly stored. Pallets and other waste stored correctly away from fire risk and taken offsite regularly and not allowed to stockpile	Negligible
Odours and VOCs	All receptors	Environmental & human health risks	Air	Medium	Medium	Medium	Risk associated with release of odours and VOCs	Generally, soils and wastes with associated high VOCs / odours not accepted. Odours and VOCs to monitored regularly.	Negligible

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Source	Receptor	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification for Magnitude	Risk Management	Residual Risk
Noise generated during onsite operations	Site operatives, general public & neighbours	Human health issues	Proximity exposure	Low to High	Medium	Medium	Magnitude and consequence of risk to offsite receptors low due to distances involved. Risk of hearing damage or nuisance due to elevated noise levels	<u>General Public and neighbours.</u> Site remote from site boundary and enclosed so no risk to general public and neighbours. <u>Site visitors</u> Site visitors will be supervised or be fully inducted. <u>Site Operatives</u> Use specified PPE as determined on site. Ongoing noise monitoring. Consider alternative equipment.	Low
Dust generated during onsite operations	All receptors	Environmental & human health risks	Air	Medium	High	High	Risk associated with release of dust	Minimise dust through keeping stockpiles damp / covered. Minimise plant movement. Keep site roads clean. Clean and check all lorries leaving site. Dust monitoring around site. Ensure all operatives use specified PPE where required.	Low

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Source	Receptor	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification for Magnitude	Risk Management	Residual Risk
Weather	All receptors	Environmental & human health risks	Air	Medium	Low	Low	Risk associated with wind and rain	All storage and processing operations undertaken. Keep roads clean to avoid any potential mud spreading Regular road sweep Keep internal pickup / put down areas clean to avoid wagon / lorries carrying debris outside Good housekeeping.	Low