

Description / Location for this activity

This risk assessment is for all environmental hazards / aspects which may occur at Ecobat Solutions UK, Crescent Works Industrial Park, Willenhall Road, Wednesbury, W510 8JH. The risk assessment has taken into consideration all past history with the site, the site monitoring procedures and the activities taken place on the site. The site is used for the storage, sorting and bulking of waste and obsolete batteries, with associated activities, such as bin washing, WEEE dismantling and effluent treatment. In 2022 there has been a Recupyl machines installed to shred Lithium batteries, this produces black mass, ferrous fractions and non-ferrous fractions. Following the environment agencies guidance a H1 assessment has been completed to identify any emissions and their control measures. Once the machine has been commissioned further testing will be completed to identify actual emissions and any further control measures if needed.

Those involved in the risk assessment

Colin Pelletier, David Brookes

Assessment date

May 2023

Risk Assessor

Nicola Kerr

Next full review due

May 2024

Reviewed and updated (specify reasons)

Full Review and Small Scale Shredder activity

	UNDESIRABLE 1	MODERATE 2	UNDESIRABLE 3	MODERATE 4	SEVERE 5
ADVERSE CONSEQUENCE	5	MODERATE 10	VERY HIGH 15	EXTREME 20	EXTREME 25
LIKELIHOOD	4	MODERATE 6	MODERATE 12	VERY HIGH 18	EXTREME 24
IMMEDIATE 3	LOW 1	MODERATE 2	MODERATE 3	HIGH 4	VERY HIGH 5
IMMEDIATE 2	VERY LOW 1	LOW 2	MODERATE 3	MODERATE 4	HIGH 5
IMMEDIATE 1	VERY LOW 1	VERY LOW 2	LOW 3	MODERATE 4	MODERATE 5

Person/s at risk during this activity

Code	Type	Number	Description
E	Employee	1	Driver / collector, Drivers mate, Operative
LW	Employee		Lone working
PW	Employee		Pregnant worker
CO	Contractor	1	Agency supplied
YP	Youngster		Young person on work experience, etc.
LA	Employee		Lainn aided or disabled
V	Visitor/s	1	Regulators / officials visiting site
CL	Clientele	1	Customer / Agent
MP	Public	1	Passers by, other road users, etc.

Hazards identified	Who may be harmed and how?	Persons exposed (Code)	Likelihood (L) 1-5	Severity A1(S) 1-5	RISK RATING (LS) 1-25	Controls currently in place	Post Likelihood (L) 1-5	Post Severity (S) 1-5	POST RESIDUAL RISK (LS) 1-25	More actions required to control risk further?	Action by whom?	Action by when?	Completed?
Release of air emissions to local wildlife sites, habitats and sensitive receptors	Harm to local wildlife, habitats and local ecosystems. Harm to human health - respiratory irritation and illness.	E, MP	3	5	15	Initial Emissions testing completed on small scale shredder. Results inputted into H1 assessment, results shows 61% above EAL for total VOC's as reported as Benzene. However, Benzene is very unlikely to be present in the lithium modules, and further clarification from EA waiting on reporting VOC's. Ecobat will start trials to identify substances within current VOC's. Trials have been completed in the US for the new emissions kit for the large scale shredder, identifying their will be minimal impact on the environment with the wet scrubber and carbon controls.	3	3	9	Clarification on total VOC's and individual substances. EA responding. During QTR 3 review emissions testing from Solutions Germany for their large scale shredder.	NK	QTR 3 2023	
Releases of particulate matter (dusts) and micro-organisms (bioaerosols).	Harm to human health - respiratory irritation and illness.	ALL	2	4	8	Permitted waste types do not include dusts, powders or loose fibres so only a medium magnitude risk is estimated. Lead batteries may have the potential cause dust if broken or damaged, however there is environmental monitoring conducted 6 monthly which results show no signs of exposure, all levels are below the detection limit. Dust suppression system on site, where site areas are dampened down with water on dry days.	1	4	4	No further action required at this time			
	Nuisance - dust on cars, clothing etc.	MP, E	1	4	4	No complaints of this nature received since operations began in 1997 at this site. However monitoring conducted 6 monthly which results show no signs of exposure, all levels are below the detection limit.	1	4	4	No further action required at this time			
Litter	Nuisance, loss of amenity and harm to animal health	MP, W, LS	3	4	12	Appropriate measures taken to control litter arising from the activities on site to outside areas. Daily housekeeping completed, along with internal road sweeper, which sweeps outside site areas. Soil samples taken 6 monthly of areas just outside site and also along main highway and up to nearest residential areas, all results monitored and investigate if found to be high.	2	4	8	No further action required at this time			
	Nuisance, loss of amenity, road traffic accidents. Vehicles entering and leaving site.	MP, E	2	3	6		1	3	3	No further action required at this time			
Waste, litter and mud on local roads	Nuisance, loss of amenity, loss of sleep. Noise through the air and vibration through the ground.	MP, E	3	4	12	No vibration on site, only small amount of hand tools used to disassemble WEEE during normal working hours. Noise surveys conducted on a frequent basis, no noise exposure to outside of site (recent survey completed 5th Feb)	1	4	4	No further action required at this time			
Noise and vibration	Harm to human health - from waste carried off site and faces. Nuisance and loss of amenity.	MP, E, CO, V	2	3	6	No waste received that attract scavenging animals. Occasionally animals & birds attempt to nest within unit. Current pest control visit 6 weekly or next day following a report of pests. Netting installed within unit to stop birds from nesting.	1	3	3	No further action required at this time			
Scavenging animals and scavenging birds	If waste is washed off site it may contaminate buildings / gardens / natural habitats downstream.	MP, E, CO, V	3	5	15	No history of flooding of site. Permitted site area is fully bunded with on site effluent treatment plant and storage tanks to accommodate overflow. Third party approved tankers available to take away contaminated water if in the event of a flood / breakdown of ETP	1	5	5	No further action required at this time			
Flooding of site	Bodily injury	E	2	4	8	All activities on site shall be managed and operated in accordance with a management system which includes site security measures to prevent unauthorised access. Access to waste restricted to authorised personnel only.	1	4	4	No further action required at this time			
All on-site hazards: wastes, machinery and vehicles.	Respiratory irritation, illness and nuisance to local population. Injury to staff, firefighters or arsonists/vandals. Pollution of water or land.	E, MP, CO	3	5	15	Access to waste restricted by on site security measures to prevent unauthorised access. 24 hours monitored CCTV, intruder alarms, anti-climb paint on all flat top gates, fencing on perimeter of site. Emergency plan on site within the management system which includes fire and flood discharge.	2	4	8	No further action required at this time			
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 or firefighters. Pollution of water or land.	E, MP, CO	2	5	10	Emergency plan on site within the management system which includes fire and spillages. Spread of fire restricted by use of designate storage area with maximum tonnage limits in place. Permitted activities do not include the burning of waste. Combustible materials limited on site and stored in designated areas, which are segregated and monitored.	1	5	5	No further action required at this time			
Accidental fire causing the release of polluting materials to air (smoke or fumes), water or land.	Acute effects: oxygen depletion, fish kill and algal blooms	E, MP, W, CO	3	4	12	There is potential for contaminated rainwater run-off from wastes stored outside buildings especially during heavy rain or battery container damage. Permitted site is fully bunded, with all liquids storage provided with secondary containment. 6 weekly monitoring completed on ETP discharge.	1	4	4	No further action required at this time			
	Chronic effects: deterioration of water quality	E, MP, CO	3	4	12	There is potential for contaminated rainwater run-off from wastes stored outside buildings especially during heavy rain or battery container damage. Permitted site is fully bunded, with all liquids storage provided with secondary containment. 6 weekly monitoring completed on ETP discharge. Canal alongside which is tested 6 monthly to highlight any signs on pollution caused by the activities carried out on site.	1	4	4	No further action required at this time			
Spillage of liquids, leachate from waste, contaminated rainwater run-off from waste e.g. containing suspended solids.	Acute effects, closure of abstraction intakes.	E, MP, CO	3	4	12	There is potential for contaminated rainwater run-off from wastes stored outside buildings especially during heavy rain or battery container damage. Permitted site is fully bunded, with all liquids storage provided with secondary containment. 6 weekly monitoring completed on ETP discharge.	1	4	4	No further action required at this time			
	Chronic effects: contamination of groundwater, requiring treatment of water or closure of borehole.	E, MP, CO	3	5	15	There is potential for contaminated rainwater run-off from wastes stored outside buildings especially during heavy rain or battery container damage. Permitted site is fully bunded, with all liquids storage provided with secondary containment. 6 weekly monitoring completed on ETP discharge. Canal alongside which is tested 6 monthly to highlight any signs on pollution caused by the activities carried out on site.	1	5	5	No further action required at this time			
Spillage of acids / antifreeze	Acute effects, closure of abstraction intakes.	E, MP, W, CO	3	5	15	There is a potential for the acids / antifreeze to leak or be punctured on site. They are stored within a fully bunded area, with drainage linked in to our system to Effluent Treatment Plant. All water on site is treated. In an event where the site may be flooded and large spillage occurs, the water storage tank on site will be activated and emergency plan followed including third party emergency tanker service to arrive at site. All areas are supplied with spill kits. Fire risk assessment completed for flammable liquids along with COSHH assessments	1	5	5	No further action required at this time			
	Chronic effects: contamination of groundwater, requiring treatment of water or closure of borehole.	E, MP, W, CO	3	5	15		1	5	5	No further action required at this time			
Battery spillage from vehicle causing environmental damage or injury to persons	Battery packages not securely loaded on to vehicle or not secure for transit	E, W, CO	3	5	15	Adequate checking and packing/storage of batteries within containers so they cannot physically spill out	1	5	5	No further action required at this time			
	Adequate training on vehicle loading					Adequate training on vehicle loading							
Non-compatible Material	Side curtains and rear door securing devices to lock in position					Ratchet straps for securing load and fixing points on vehicle							
	Ensure all ancillary lifting equipment and other items are securely fastened to vehicle prior to manoeuvring vehicle. Site fully bunded to contain and treat spillage on site. Site emergency spillage plan in place, along with spillage training conducted for all site operatives.												
Release of gases / fumes / vapours or risk of fire due to non compatibility of waste types stored on site	Waste pre acceptance in place to identify waste type. Dedicated storage areas on site which segregate flammable materials and high risk areas. Regular monitoring in place of storage areas and continual internal training for all site operatives on storage arrangements and hazards associated with material accepted on site.	E, W, CO	2	5	10		1	5	5	No further action required at this time			

<p>Nuisance, harm to human health, loss of amenity, deterioration of water quality</p>	E, W, MP	3	5	15	<p>Fire risk assessment completed, All waste stored in designated areas, full site fire detection in place including fire rays, fire beams and 2 hourly thermal imaging monitoring. Maximum annual throughput tonnage is 75,000 tonnes, maximum seen by the site is 46,000 a year. High risk material introduced to pre-acceptance checks, and storage limits on site within a sacrificial building.</p>	2	5	10	No further action required at this time			
<p>Serious Fire</p>												
<p>Loss of amenity, deterioration of water quality</p>	W	3	5	15	<p>In event of fire, fire water can be contaminated as not to kill fish and aquatic life. Run-off water can be treated within onsite Effluent Treatment Plant. Third Party contractor in place who can visit site to remove excess run-off water, in the event it may be required.</p>	1	5	5	No further action required at this time			
<p>Serious Fire</p>												
<p>Explosion caused by the storage of flammables, including Aerosols</p>	E, W, CO	3	5	15	<p>Fire risk assessment completed, All waste stored in designated areas, full site fire detection in place including fire rays, fire beams and 2 hourly thermal imaging monitoring. Aerosols will be limited to the quantity stored on site, maximum 8 x 205ltr vented drums permitted at any one time. Aerosols are included in pre-acceptance checks.</p>	2	5	10	No further action required at this time			
<p>Lead</p>												
<p>Dusts from dried out spillages of electrolyte and/or broken batteries - Lead in air issue</p>	E, MP, CO	2	5	10	<p>Monthly blood lead monitoring results proven to show employees are not exposed to lead dust and are all below limits. PPE dust masks have been removed due to this. 6 monthly air monitoring conducted shows no sign of pollution. Continual monitoring in place.</p>	1	5	5	No further action required at this time			
<p>Acid contamination</p>												
<p>Release of acids to ground/water from broken batteries or leaking materials</p>	E, W	3	4	12	<p>All containers inspected for leakages before being loaded / unloaded. If leakage is spotted, it is dealt with using vehicle on board spill kits. All batteries stacked in bins upright. Site is fully bonded to contain any acid that may have spilled and not been captured by spill kit. Spillage contained and treated in on site effluent treatment plant.</p>	1	4	4	No further action required at this time			