To satisfy the requirement for a baseline report, the application must include a Stage 1 – 3 assessment it the proposal is to use, produce or release any hazardous substances during the life of the permit. This serves to identify if there is a risk of pollution to soil and groundwater.

1 Stage 1 – Identification of Hazardous Substances

The site will accept hazardous wastes for processing (repackaging) and/or for onward transfer. Products will be used in the wash plant, to render the reusable sharps bins clean and suitable for return to the customer for reuse. An effluent will be produced by the wash plant, and this will be discharged to foul sewer. All substances are listed in Table 1.

Table 1: Hazardous Substances

Substance	Description	Hazardous / Non-hazardous
1.Healthcare waste (sharps)	Wastes accepted for repackaging (activity AR1): 18 01 03* - infectious wastes, not contaminated with chemicals or medicines (contains sharps); 18 01 03* & 18 01 06* - infectious healthcare waste with chemical preservatives; 18 01 03* & 18 01 08* - infectious waste, medicinally contaminated (cytotoxic or cytostatic) (contains sharps); 18 01 03* & 18 01 09 - infectious waste, medicinally contaminated (not cytotoxic or cytostatic) (contains sharps); 18 02 02* - infectious wastes, not contaminated with chemicals or medicines (contains sharps); 18 02 02* & 18 02 05* - infectious healthcare waste with chemical preservatives; 18 02 02* & 18 02 07* - infectious waste, medicinally contaminated (cytotoxic or cytostatic) (contains sharps); and 18 02 02* & 18 02 08 - infectious waste, medicinally contaminated (not cytotoxic or cytostatic) (contains sharps)	Hazardous
2.Wastes	Wastes accepted for storage and transfer only (activity AR2): 09 01 01* - water-based developer and activator solutions; 09 01 02* - water-based off-set plate developer solutions; 09 01 03* - solvent based developer solutions; 09 01 04* - fixer solutions; 09 01 05* - bleach and bleach fixer solutions; 18 01 02 & 18 01 06* - non-infectious anatomical waste, chemically preserved, hazardous chemicals; 18 01 03* - infectious wastes, not contaminated with chemicals or medicines (contains sharps); 18 01 03* & 18 01 06* or 07 - infectious waste, contaminated with chemicals / infectious anatomical waste, chemically preserved; 18 01 03* & 18 01 08* or 20 01 31* - infectious waste, contaminated with cytotoxic and cytostatic medicines – may contain sharps; 18 01 03* & 18 01 09 - infectious waste, medicinally contaminated (not cytotoxic or cytostatic) (contains sharps); 18 01 06* - chemicals consisting of or containing hazardous substances; 18 01 08* - cytotoxic and cytostatic medicines;	Hazardous

	18 01 10* - amalgam waste from dental care; 18 02 02* - infectious wastes, not contaminated with chemicals or medicines (may contains sharp), infectious anatomical waste, not chemically preserved, infectious gypsum wastes (e.g. plaster casts and moulds); 18 02 02* & 18 02 05* or 18 02 06 - infectious waste, contaminated with chemicals, infectious anatomical waste, chemically preserved 18 02 02* & 18 02 07* or 20 01 31 - infectious waste, contaminated with cytotoxic and cytostatic medicines – may contain sharps; 18 02 02* & 18 02 08 - infectious waste, medicinally contaminated (not cytotoxic or cytostatic) (may contain sharps); 18 02 03 & 18 02 05* - non-infectious anatomical waste, chemically preserved, hazardous chemicals; 18 02 05* - chemicals consisting of or containing hazardous substances; 18 02 07* - cytotoxic and cytostatic medicines; and 20 01 31* - cytotoxic and cytostatic medicines – municipal, separately collected fractions not from healthcare or research-related sources.	
3.Cleaning products	Used for the cleaning and disinfection of the emptied sharps bins: Pep Active surface cleaner (general purpose cleaner – H314 and H318). Highest concentration ingredient is propan-2-ol at 10 – 20%; and Solid Hero machine detergent (wash and rinse aid – H314 and H411). Highest concentration ingredient is sodium hydroxide at 35 – 50%. *SDS for the products are provided in Annex BAT2 of the EP application.*	Hazardous
4.Trade effluent	Limited to the spent wash waters from the bin wash plant (dosed cleaning agents listed above are diluted with ~ 35 litres/hour of water)	Non-hazardous
5.Emission to Air	There is an LEV extraction system over the repackaging (decanting of sharps bins into lined bags in 770 litre bins) – this routes to emission point A1 and is abated with a HEPA filter.	Non-hazardous

2 Identification of Relevant Hazardous Substances (RHS)

The substances identified as hazardous in Table 1 above have been assessed for potential pollution risk i.e. whether they could cause soil and groundwater pollution. Each group has been assessed for the same chemical and physical properties, see Table 2.

Table 2: Relevant Hazardous Substances

Description	Solubility	Toxicity	Mobility	Persistence	Biodegradability	Physical state	RHS?
Sharp HCW accepted for repackaging (activity AR1). Hazardous primarily due to potential infectious nature of the waste, but also due to potential medicinal contamination of some of the streams (residues)	Soluble	Various products containing residues of Cytotoxic / Cytostatic medication <10% *(Consigned as HP 6,7,11,13)* HP6 – Acute Toxicity	No data available for mobility in soil	No components are considered to be persistent	Unknown	Solid & liquid – all contained in UN approved sharps containers	Yes
Wastes accepted for storage and transfer only (activity AR2). Hazardous primarily due to potential infectious nature of the waste, but also due to potential medicinal contamination of some of the streams, and inclusion of hazardous chemicals in some	Soluble	Various products containing residues of Cytotoxic / Cytostatic medication <10% *(Consigned as HP 6,7,11,13)* HP6 – Acute Toxicity	No data available for mobility in soil	No components are considered to be persistent	Unknown	Solid & liquid wastes – all contained in UN approved containers (sealed)	Yes
Pep Active surface cleaner	Soluble	Two ingredients (alcohol sulphates <5% and benzyl alcohol <5%) are classified as H302 acute toxicity however no known ecotoxicological effects	No data available for mobility in soil	No components are considered to be persistent	Surfactants within the product are readily biodegradable. Decomposition products may include carbon oxides, NOx, SOx, oxides of phosphorous	Liquid – in small quantities and proprietary containers	Yes

Description	Solubility	Toxicity	Mobility	Persistence	Biodegradability	Physical state	RHS?
Solid Hero machine detergent	Soluble in cold or hot water	Troclosene sodium dihydrate is classified as H302 acute toxicity. Toxic to aquatic organisms, water pollutant if released in large quantities	No data available for mobility in soil	No components are considered to be persistent	Surfactants within the product are biodegradable. Decomposition products may include carbon oxides, NOx, SOx, oxides of phosphorous, halogenated compounds, metal oxides	Solid	Yes

3 Assessment of Site Specific Pollution Possibility

The four substances (or group of substances) in Table 4 have been identified as all being a relevant hazardous substance (RHS). This stage provides an assessment of the potential pollution risk to soil and groundwater for each of these (and the activities they are used in/processed in where applicable).

This follows the EA's source pathway receptor model and is presented in Table 3.

Source	Pathway	Receptor	Harm	Control Measures	Likelihood of Exposure	Conseq-uence	Magnitude of Risk
Medicines present in sharp HCW accepted for repackaging (activity AR1)	Spillages, contaminated fire water by direct run-off from site and via surface water drains and ground	Via soil, groundwater to local human population, the River Thames, ecological receptors	Pollution of water or land leading to harm to human health and ecological features	Wastes are delivered in sealed re-usable sharps containers which are subject to pre-acceptance and waste acceptance procedures (including visual inspection to check integrity). Any medicinal contamination will be small (residues) within syringes. Reusable containers are tracked and re-used for only a specified number of times before being taken out of circulation and recycled. Waste is unloaded (supervised) within the process building which has impermeable hardstanding and sealed drainage (with interceptor). The location of waste storage, processing and repackaging is defined on the site layout plan. Spillage procedures and kits are in place. Bins are decanted via a tipping mechanism into a lined, UN approved cart/container which is then closed, locked and stored in the building pending transfer off site for AT. Doors to the building remain closed when not in use. Repackaging equipment and bulk containers, and flooring/drainage are subject to PPM, inspection and servicing. Activities are carried out in line with a certified EMS.	Very Low	Medium	Low

Source	Pathway	Receptor	Harm	Control Measures	Likelihood of Exposure	Conseq-uence	Magnitude of Risk
Medicines and chemicals present in wastes accepted for storage and transfer only (activity AR2)	Spillages, contaminated fire water by direct run-off from site and via surface water drains and ground	Via soil, groundwater to local human population, the River Thames, ecological receptors	Pollution of water or land leading to harm to human health and ecological features	Wastes are delivered in sealed UN approved containers which are subject to pre-acceptance and waste acceptance procedures (including visual inspection to check integrity). Waste is unloaded (supervised) within the building which has impermeable hardstanding and sealed drainage (with interceptor). UN approved cart/containers remain sealed and locked when being stored pending transfer off site. Storage areas for these waste streams are defined on the site layout plan. Doors to the building remain closed when not in use. Spillage procedures and kits are in place. Bulk containers, and flooring/drainage are subject to PPM, inspection and servicing. Activities are carried out in line with a certified EMS.	Very Low	Medium	Low
Pep Active surface cleaner	Spillages, contaminated fire water by direct run-off from site and via surface water drains and ground	Via soil, groundwater to local human population, the River Thames, ecological receptors	Pollution of water or land leading to harm to human health and ecological features	Raw materials are stored in a dedicated area within the site building (in a COSHH cabinet close to the wash plant). They remain in the proprietary containers that they are received in and are not decanted or bulked/mixed. Quantities stored at any one time are limited to 20 bottles (750 ml). SDS and COSHH assessments are retained and reviewed regularly. The product is taken to the wash plant in its container as required. The building which has impermeable	Very Low	Medium	Low

Source	Pathway	Receptor	Harm	Control Measures	Likelihood of Exposure	Conseq-uence	Magnitude of Risk
				hardstanding and sealed drainage (with interceptor) and spillage procedures and kits are in place.			
Solid Hero machine detergent	Spillages, contaminated fire water by direct run-off from site and via surface water drains and ground	Via soil, groundwater to local human population, the River Thames, ecological receptors	Pollution of water or land leading to harm to human health and ecological features	Raw materials are stored in a dedicated area within the site building (in a COSHH cabinet close to the wash plant). They remain in the proprietary containers that they are received in and are not decanted or bulked/mixed. Quantities stored at any one time are limited to 4 drums (20 l). SDS and COSHH assessments are retained and reviewed regularly. The product is taken to the wash plant in its container as required. The building which has impermeable hardstanding and sealed drainage (with interceptor) and spillage procedures and kits are in place.	Very Low	Medium	Low

4 Conclusion

The assessment above is considered to be a comprehensive review of the hazardous substances present on site for the permitted activities.

It concludes that there are no risks from the relevant hazardous substances that would require the collection of baseline reference data for soil and groundwater.

In support of this assessment, the following documents are available for the site (and have for the majority been submitted in pursuance of the 2025 permit application):

- Waste pre-acceptance and acceptance procedures (ref. SSP01 - Pre-Acceptance Audit)
- EMS documents (certified company-wide system) including EMS Summary (ref. Appendix A – SHSMT_2025.01/01)
- Site Layout Plan (ref.SHSMT-2025-RNM2-EP02)
- Drainage Plan (ref.SHSMT-2025-RNM2-EP03)
- SDS (ref. Annex BAT2)
- COSSH assessments