Agilent Environmental Permit Application – Copy For Public Register

Non-Technical Summary

Agilent Technologies LDA Ltd UK

Essex Road, Church Stretton, Shropshire. SY6 6AX

Prepared by:

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SLR Project No.: 410.064951.00001

4 July 2025

Revision: FINAL

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
DRAFT	18 March 2024	Lisa Brookes	Maggie Dutton	Mark Webb
DRAFT V2	15 April 2024	Lisa Brookes	Maggie Dutton	Lisa Brookes
DRAFT V3	07 June 2024	Lisa Brookes	Mark Webb	Lisa Brookes
Draft V4	28 June 2024	Lisa Brookes	Mark Webb	Lisa Brookes
FINAL	23 September 2024	Lisa Brookes	Maggie Dutton	Maggie Dutton
Final V2	4 July 2025	Mark Webb	Maggie Dutton	Mark Webb

Basis of Report

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Table of Contents

Tables in Text

1.0 Introduction

SLR Consulting Limited (SLR) has been instructed by Agilent Technologies LDA UK Limited (Agilent) to prepare an application for an Environmental Permit (EP) for the existing organic polymer manufacturing site located at Essex Road, Church Stretton, Shropshire, SY6 6AX (the site). The EP application will be submitted to the Environment Agency (EA) for determination.

The site manufactures silica and organic polymers for use in laboratory consumables and industrial applications at a rate of less than 5 tonnes per year. This is considered to be a listed activity under the Environmental Permitting (England and Wales) Regulations (EPR) 2016 (as amended):

Section 4.1 Part A(1)(a)(viii) producing organic chemicals such as plastic materials (for example polymers, synthetic fibres and cellulose based fibres).

This Non-Technical Summary (NTS) provides a summary of the facility along with a summary of key technical standards and control measures that are implemented at the site to support the EP application.

1.1 The Site

The site is located in Church Stretton, Shropshire. The site is accessed via Essex Road and the National Grid Reference (NGR) for the site is centred on SO 45672 93772.

The site is located approximately 300m north of Church Stretton town centre and 17.5 km south of Shrewsbury and is situated within a mix of commercial, recreational and residential property. The A49 runs in a north-south direction approximately 115m east of the site. Residential properties are in close proximity, with the closest located approximately 20m to the north and 35m to the west of the site respectively.

The site's location is illustrated on Drawing 001; the site layout and emission points on Drawing 002. The surrounding land uses, local receptors within 500m are illustrated on Drawing 003 and cultural and natural heritage receptors within 2km are identified on Drawing 004.

Infrastructure at the facility comprises:

- Unit 1: reception, office space and production in the form of packing of powder columns;
- Unit 2: research and development laboratory;
- Unit 3: large-scale and small-scale production;
- Unit 4: chemical storage;
- Unit 5: office space (excluded from the proposed EP boundary);
- wet chemical scrubber;
- covered drum store;
- chemical store;
- sub-station;
- 10,000L underground attenuation tank; and
- Car parking in the south and central areas of site.

A summary of the site's immediate surrounding land uses is identified in Table 1-1 below.

Table 1-1: Surrounding Land Uses

Boundary	Description
North	Directly north of the site comprises residential properties, with the closest property located approximately 20m north on Windsor Place. Ash Brook is located approximately 90m north. Church Stretton Cricket Club and Churchill Park are located approximately 140m to the north-west and Coppice Leasowes Nature Reserve is located approximately 120m to the north-east.
East	A railway line is located directly adjacent to the eastern site boundary. A bowling green, tennis courts and a play area are located beyond the railway line. Residential properties are also located approximately 200m east.
South	Sandford Avenue (B4371) is located directly adjacent to the southern site boundary. Commercial/industrial premises are located a further 75m south. Church Stretton railway station and an unnamed surface water feature are located 120m and 165m south of the site respectively.
West	Essex road and residential properties bound the site to the west, with the closest dwelling located 35m west. Church Stretton town centre and a playing field are located 300m and 340m west respectively.

A culverted stream, Town Brook, passes directly beneath the site in an easterly direction from Essex Road beneath the central carpark and below Unit 2. A soakaway is also located in the southern car park which receives uncontaminated rainwater.

The site previously comprised railway sidings. An intrusive investigation was undertaken in 2000 in the area occupied by Unit 3 to delineate contamination and undertake remediation prior to construction of Unit 3.

2.0 Overview of Site Operations

The site manufactures silica and organic polymers (mostly in the form of microscopic particles) for use in laboratory and industrial applications in human clinical and diagnostics, liquid chromatography and solid support synthesis particles. On-site processes include receipt and storage of raw materials; polymerisation of monomers and surface modification; storage, loading and despatch of finished products. A research and development (R&D) laboratory is also located onsite.

Raw materials used in the process include organic solvents such as methanol, acetone, tetrahydrofuran styrene, dimethylbenzene and dichloromethane. Where reactions occur, these take place within temperature-controlled reaction systems and once complete, the product is discharged to a vessel where it is mixed with a solvent, filtered and blended prior to discharge. Products are then transferred to smaller packages as required.

The reaction vessels are heated via electrical heating systems. General heating and other process heating is provided via the low temperature hot water system which is powered by several small gas fired boilers (<1MWth rated thermal input).

An emergency diesel generator (<1MWth rated thermal input) is also located onsite which backs up critical electrical supplies.

Reactors and vessels are connected to a wet scrubber to abate volatile organic compound (VOC) emissions to air. Local exhaust ventilation for the fume cupboards is also present onsite.

Wastewater generated at the site comprises:

- Process cooling and wash water (laboratory waste water[1], cooling water, compressor condensate, ion exchange[2], sieving of polymer particles[3] and emptying of laboratory tanks[4]).
- Chlorinated solvent containing water and unchlorinated solvent containing water from process vessels.

However, the current low temperature hot water systems (LTHW) do not discharge blow down to sewer.

The process cooling and wash water is discharged to sewer under four trade effluent discharge consents with Severn Trent. The chlorinated and unchlorinated waste solvent containing water is collected twice a week by a waste contractor and reused as cement kiln fuel.

Solid waste at the site comprises glassware from the laboratory (contaminated with low level solvents) and unchlorinated and chlorinated waste from the laboratory (i.e., gloves, filters, empty packaging and personal protective equipment). Solid waste is transferred offsite to a suitably licenced facility for recycling or for use as fuel in an energy from waste plant.

The drum store comprises bunded, undercover storage for raw materials and waste. A 10,000 litre underground attenuation tank is located on the surface water drainage system prior to discharge to offsite storm water drains.

3.0 Environmental Permit Application

3.1 Application Contents

To support this application, the following documentation is submitted:

- Section 1: Non-Technical Summary (NTS).
- Section 2: Application Forms.
- Section 3: Best Available Techniques and Operating Techniques (BATOT).
- Section 4: Environmental Risk Assessment (ERA).
- Section 5: Air Emissions Risk Assessment (AERA) and Air Quality Management Plan (AQMP).
- Section 6: A Noise Impact Assessment (NIA) and a Noise Management Plan (NMP).
- Section 7: Site Condition Report (SCR).
- Section 8: Drawings.

The following drawings accompany this EP application:

- Drawing 001: Site Location;
- Drawing 002: Environmental Permit Boundary and Emission Points;

[1] Laboratory wastewater containing small volumes of detergents, residual acetone, polymeric solids and de-ionised water from glassware washing.

[2] Ion exchange from the reverse osmosis process.

[3] Sieving of polymer particles containing predominantly mains water, with a small amount of inert polymeric solids. Sieves and filters are used to removed particulates for discharges to sewer.

[4] Emptying of laboratory tanks comprises reserve osmosis water, deionised water and mains water. This does not contain any R&D chemicals.

- Drawing 003: Site Setting Plan - Local Receptors; and
- Drawing 004: Site Setting Plan - Cultural and Natural Heritage.
- Drawing 005: Chemical Storage Areas.

3.2 Best Available Techniques and Operating Techniques (BATOT)

The Best Available Techniques and Operating Techniques (BATOT) document describes how the site has been designed and is operated in accordance with Best Available Techniques (BAT) as described in EA guidance and relevant BAT reference (BREF) notes. The document includes an overview of the technical, operational and management measures that are implemented at the site.

The activities undertaken at the site are designed and operate in accordance with the relevant sections of the following key guidance documents:

- European Commission Best Available Techniques Reference (BRef) document for the Manufacture of Organic Fine Chemicals (August 2006);
- European Commission Best Available Techniques Reference (BRef) document and BAT Conclusions (BATc) for the Production of Polymers (August 2007);
- European Commission. Reference Document on Best Available Techniques for Common Wastewater and Waste Gas Treatment / Management Systems in the Chemicals Sector (June 2016);
- European Commission Best Available Techniques Reference (BRef) document and BAT Conclusions (BATc) for the Common Waste Gas Management and Treatment Systems in the Chemical Sector (December 2022); and
- Environment Agency - EPR4.02 for the Speciality Organic Chemicals Sector (February 2009).

The BATOT is enclosed as Section 3 of this application.

3.3 Environmental Risk Assessment (ERA)

An ERA is required for the application, in accordance with the EA's requirements.

The ERA has considered the risks posed by the site to the environment. It includes qualitative assessments for the potential risks including amenity, odour, fugitive emissions, flooding, dust, point source emissions to air, water, and land, litter, mud, pests and potential for accidents and incidents. The assessment concludes that with the limited process emissions and implementation of the risk management measures described, potential hazards from the site are not likely to be significant.

However, it is noted that Agilent is currently completing a BAT options appraisal and technology selection to address minor exceedances identified above applicable BAT AELs, which will be forwarded to the EA on completion as an addendum to this EP application. The site is committed to installing the BAT option to ensure compliance with the BAT-AELs. It is anticipated that any emissions abatement upgrades that are identified by the assessment required to achieve BAT compliance are expected to be implemented prior to determination of the EP by the EA.

The ERA is enclosed as Section 4 of this application.

3.4 Air Emissions Risk Assessment (AERA)

Emission points to air comprise the wet chemical scrubber; local exhaust ventilation for the fume cupboards and combustion plant (<1MWth rated thermal input). The Air Emissions Risk Assessment (AERA) has considered the risks posed by the site to short-term and long-term impacts on both human and ecological receptors. Impacts are assessed against relevant Environmental Assessment Levels (EALs) for the protection of human health and against Critical Loads (CLo) and Critical Levels (CLe) for the protection of vegetation and ecosystems, in accordance with EA guidance 'Air emissions risk assessment for your environmental permit' (the AERA guidance).

The AERA has concluded that the emissions process contribution can be considered 'insignificant' against relevant long-term and short-term standards for the protection of human health.

The AERA is enclosed as Section 5 of this application.

Air emissions monitoring undertaken in Q4 2023 indicated that Agilent may need to review the waste gas abatement systems in order to meet applicable BAT AELs. Agilent intends to replace the current waste gas abatement system. An initial design basis statement and BAT assessment has been undertaken which proposes that a water based wet scrubber system followed by a polishing stage using an activated carbon filter is used to enable compliance with applicable BAT AELs. Agilent intends that the upgraded waste gas abatement system should be operational by approximately Q3 2025 (based on a 42 week lead in time prior to installation).

Whilst the new waste gas abatement system is being commissioned and installed; Agilent proposes to hire a temporary scrubber to reduce concentrations of compounds in emissions to air. This will replace the current waste gas abatement system.

3.5 Noise Impact Assessment (NIA)

A Noise Impact Assessment (NIA) was undertaken in accordance with BS4142:2014+A1:2019 – 'Methods for rating and assessing industrial and commercial sound' and the EA guidance document Noise and vibration management: environmental permits (NVM)'. This included a baseline noise survey at a proxy location where noise from the site is not part of the soundscape, but all other residual sound sources are similar.

Based on the results of the NIA, a Noise and Management Plan (NMP) was also prepared for the site.

The NIA and NMP are enclosed as Section 6 of this application.

3.6 Site Condition Report

The Site Condition Report provides a baseline of the existing land and groundwater conditions at the commencement of permitted operations for the area that are included within the proposed EP boundary. This includes a risk assessment prepared in accordance with EA Guidance 'Environmental Risk Assessment - EPR H1'.

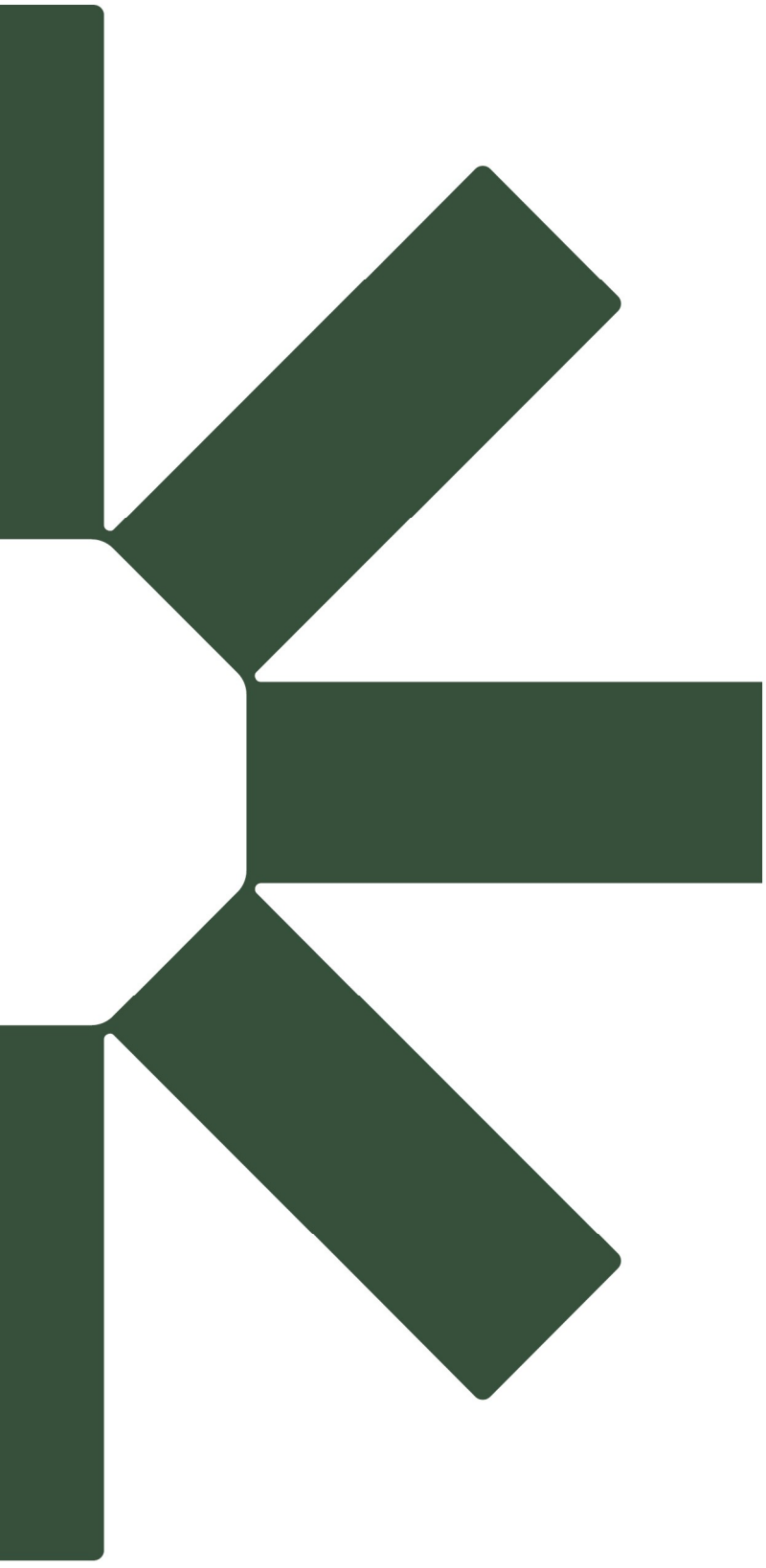
The SCR is enclosed as Section 7 of this application.

4.0 Conclusion

The overall conclusion from the studies undertaken as part of this EP application is that there is unlikely to be a significant environmental impact as a result of site operations.

The site will operate in accordance with its environmental management system which will continue to ensure that odour risks remain low. The NMP will ensure that potential adverse noise impacts from site remain low.

To ensure that emissions to air meet applicable BAT AEL levels (refer 410.064951.00001_BATOT) Agilent is currently completing a BAT options appraisal and technology selection for updates to the onsite air emissions abatement system which will be forwarded to the EA on completion. Upgrades to the air emission abatement system are anticipated to be in Q3 2025, prior to determination of the EP.



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