Environmental Permit Variation – Supporting Documentation Appendix E - Qualitative Environmental Risk Assessment

Ellesmere Port Active Chemicals

Innospec Limited

Oil Sites Road, Ellesmere Port, Cheshire, CH65 4EY

Prepared by:

SLR Consulting Limited

5th Floor, 35 Dale Street, Manchester, M1 2HF

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Basis of Report

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Table of Contents

Tables in Text

1.0 Introduction

This Environmental Risk Assessment (ERA) has been prepared in support of an application for substantial variation of Environmental Permit (EP) number EPR/BU4112IK for the Ellesmere Port Active Chemicals Installation.

The Operator is Innospec Limited, and the site is located on Oil Sites Road, Ellesmere Port, Cheshire, CH65 4EY (the 'Site').

The variation is required due to the installation of new production process and associated equipment in, and adjacent to the PC3 building. The new plant will be operated as a multipurpose plant under a multiproduct protocol.

Full details of the proposed new production plant and its operation are provided in the main technical supporting document for this application.

This Environmental Risk Assessment (ERA) provides a qualitative assessment of the risks to the environment and human health from accidents, odour, noise, and fugitive emissions that may be associated with the operations at the facility.

1.1 Methodology

The assessment has been completed in accordance with EA Technical Guidance 'Risk Assessments for your Environmental Permit' dated August 2022. The aim of the assessment is to identify any significant risks and to demonstrate that the risk of pollution or harm will be acceptable by taking the appropriate measures to manage these risks. The EA Guidance requires all receptors that are near the site and could reasonably be affected by the activities to be identified and considered as part of the assessment.

This ERA should be read in conjunction with the full set of technical documentation prepared in support of the permit application.

1.2 Details of the Variation Request

The variation is required due to the installation of new production equipment in the PC3 building which will include a new reactor with an associated wet chemical (caustic) scrubber emissions abatement system. The new plant will be operated as a multipurpose plant under a multiproduct protocol. However, initially it is proposed to produce two of the site's current raw materials, Arquad nitrate and P13PA, that are used in the existing permitted process to manufacture the product, Stadis. The production of the two existing raw materials onsite will also introduce a number of new raw materials to the site including epichlorohydrin.

The addition of the new process plant will require use of an area of land currently within the installation boundary of a separate Environmental Permit also held by Innospec (EPR/BM0508IG). To facilitate this variation, it is proposed that EPR/BU4112IK and EPR/BM0508IG be consolidated into a single sitewide EP. Further information on the proposed consolidation of the 2 EP's can be found in Section 3.3 of the Technical Supporting Document.

The variation is to add a Listed Activity Section 4.1 under Schedule 1, Part A1 of the Environmental Permitting (England and Wales) Regulations (EPR) 2016 (as amended) for the manufacture of organic chemicals (Section 4.1 A(1)(a)(iv) – producing organic compounds containing nitrogen).

1.3 Operation of the Installation and Management System

The Installation is be managed by technically competent personnel in accordance with an Environmental Management System (EMS) and associated operating procedures. This ensures good practice on site and minimise environmental risk throughout the operation.

2.0 Identifying the Risks

Table 2-1 provides a summary of the potential environmental risks at the site; identifying those that can be screened out as not relevant (grey shaded) and the type of risk assessment carried out for those that are identified as relevant and the location of that assessment.

Table 1: Scope Of Risk Assessment

Risk Type	Relevant	Justification	Type of Risk Assessment	Location of Assessment
Air Emissions	Yes	Release of emissions to air from emission point A14 which could potentially contain low levels of volatile organic compounds (VOC).	Air Emissions Risk Assessment (AERA)	Application Supporting Documentation Appendix E
Photochemical Ozone Creation Potential	Yes	As above	Photochemical Ozone Creation Potential Assessment	See Section 4.1 of this document
Global Warming Potential	Yes	As above	Global Warming Potential Assessment	See Section 4.2 of this document
Soil and Groundwater Pollution Risk	Yes	Potential for loss of Relevant Hazardous Substances to Ground.	Soil and Groundwater Pollution Risk Assessment	See Appendix B
Groundwater (for groundwater activities only)	No	No direct discharge to groundwater is proposed	Not Required	N/A
Surface Water	Yes	Release of treated effluent from the overall site Effluent Treatment Plant to the Manchester Ship Canal. Existing consented discharge.	Qualitative Risk Assessment	See Section 4.3 of this document
Sewer	No	There will be no discharge of effluents directly generated by the main process activities to sewer.	Not Required	N/A
Odour	Yes	No use of particularly odorous materials at the site.	Qualitative Risk Assessment	See Section 4.4 of this document

Risk Type	Relevant	Justification	Type of Risk Assessment	Location of Assessment
Accidents	Yes	Potential for emissions from equipment failure etc.	Qualitative Risk Assessment	See Section 4.5 of this document
Noise & Vibration	Yes	Use of mechanical equipment and the operation of the caustic scrubber.	Qualitative Risk Assessment	See Section 4.6 of this document
Fugitive Emissions	Yes	Dust, pests litter Emissions to air of VOCs	Qualitative Risk Assessment	See Section 4.7 of this document
Visible Emissions	No	No visible plume	Not Required	N/A
Bioaerosols	No	None emitted	Not Required	N/A

3.0 Site Setting and Receptors

The site address is Oil Sites Road, Ellesmere Port, Cheshire, CH65 4EY.

The site is centred on grid reference SJ 41857 76614 and is around 0.80 hectares in size.

A site location map is presented in Appendix A – Figure 1 of the application supporting documentation.

The site is located on Oil Sites Road, which provides access to the site. Surrounding land use is predominantly industrial properties and woodland surrounding the site. There are some open land and woodland area surrounding the site, as well as the Manchester Ship Canal and River Mersey to the north. The M53 is also located to the west of the site.

Table 3 presents a summary of the surrounding land use, for the purpose of this report:

- A 2km radius from the site's proposed EP boundary has been adopted in reviewing potentially RAMSAR, SAC, SPA and SSSIs and sensitive receptors of ecological importance along with features such as Sites of Cultural and Natural Heritage; and
- A radius of 500m from the site's EP boundary has been adopted for all other potentially sensitive local receptors (for example, residential, commercial, industrial, agricultural, and surface water receptors).

Table 2: Surrounding Land Uses

Receptor / Feature	Description
Residential	There are no residential properties within 500m of the site. The nearest residential property is located approximately 1.1km to the west of the site at Turing Avenue.
Commercial and Industrial	The site is on the southern border of the Indigo Business Park, with industrial premises adjacent to the north, west and east. The nearest commercial premises is adjacent to the northern border of the site. A summary of the businesses currently occupying this land is as follows: - North: Wheel Kings Alloy Wheel Refurbishment – adjacent - East: Ark Coachline – adjacent
Schools / Hospitals	There are no schools or hospitals located within 500m of the site. The closest educational facility is Wolverham Primary & Nursery School which is approximately 1.3km to the southwest of the site. There are no hospitals within 2km of the site.
Open Ground / Agricultural	The site is adjacent to Woodland and Open Land at Stanlow Point, located approximately 60m to the east of the facility.
Recreational	There are no recreational areas within 500m of the site. The nearest recreational receptor is approximately 1km to the west of the site, next to the nearest residential area at Barge Way.

Receptor / Feature	Description
Surface Water Features	A search of the Multi-Agency Geographical Information for the Countryside (MAGIC)[1] map revealed that the closest surface water feature is the Manchester Ship Canal approximately 340m north and the River Mersey approximately 370m north of the site.
Geology, Hydrogeology and Hydrology	Geology British Geological Survey (BGS)[2] data indicates that the site is underlain by a bedrock of Wilmslow Sandstone Formation – Sandstone. Sedimentary bedrock formed between 252.2 and 247.1 million years ago during the Triassic period. There are also superficial deposits overlying the bedrock. This is in the form of Tidal Flat deposits – clay, silt and sand. Hydrology According to MAGIC, the groundwater vulnerability at the site is classified as Medium risk. This means that there is a medium risk of a pollutant reaching the groundwater below the site. Hydrogeology The bedrock geology is classified as a Principal Aquifer. The superficial geology beneath the site is classified by the EA as Secondary (undifferentiated). A on the Multi-Agency Information for the Countryside (MAGIC) website. MAGIC has confirmed that there are no Source Protection Zone's within 2000m of the site.
Flood Risk	The Flood Map for Planning identifies the site as lying within a Flood Zone 3. Land assessed as having a 1 in 100 or greater annual probability of river flooding.[3] The Long-Term Flood Risk[4] assessment identifies the Site as being 'very low risk' from flooding from rivers and surface water.[4]
Ecological Sites and Habitats	The Mersey Estuary is designated as a RAMSAR site, SSSI and a Special Protection Area, which is approximately 370m north of the site.
Local Wildlife Sites	Stanlow Point River Gowy Shellway Road Pond South Shropshire Union Canal Tow Path Little Stanley to Waverton

[1] Magic Map Application

[2] GeoIndex (onshore) - British Geological Survey

[3] https://flood-map-for-planning.service.gov.uk/

[4] Check the long term flood risk for an area in England - GOV.UK (www.gov.uk)

4.0 Environmental Risk Assessment

4.1 Photochemical Ozone Creation Potential (POCP)

An assessment of the photochemical ozone creation potential (POCP) for the new process plant proposed under this permit variation is presented below.

The POCP for the new plant will vary significantly based upon a number of factors including:

- The product being produced;
- The raw materials / VOC's required for the product being produced;
- The number of batches of each product manufactured annually.
- The VOC recovery efficiency achieved by the condenser.
- The VOC abatement efficiency achieved by the scrubber.

The site will use a variety of VOC compounds including organic solvents such as IPA, Xylene, Aromatic 150 depending on the product being manufactured. It is expected that the VOC emissions will be minimised through the proposed abatement measures.

At the current time it is anticipated that the proposed plant will be used to manufacture a small number of batches of each product during the initial phase of operations. After which the frequency of operation is not yet determined.

Hence, it is not possible at this stage to calculate what the actual likely annual POCP will be for the new plant and associated processes. However, given the abatement measures proposed and the expected limited operation of the plant, the POCP is anticipated to be relatively low.

4.2 Global Warming Potential Assessment

4.2.1 Direct Emissions

The VOC's emitted to atmosphere are not considered to represent direct impact greenhouse gases and as such are excluded from the calculation.

The chiller system used to provide chilled water to the site users will contain refrigerant gas. However, these will be within a sealed system and are not expected to be routinely released to air and as such are excluded from the calculation.

4.2.2 Indirect Emissions

The process generates indirect emissions from the use of electricity to heat and power the site.

4.2.3 Calculation of Global Warming Potential

Table 3 presents a calculation of the theoretical energy usage per batch.

Table 3: Global Warming Potential – Per Batch

Energy Source	Estimated kWh per Batch	Conversion Factor (1)	CO_2 Equivalent kg
Electricity	324 (2)	0.19553	63
Gas	12,960 (3)	0.20270	2,627
Total			**2,690**

Notes:

1) CO_2 conversion factors taken from UK Government GHG Conversion Factors for GHG Reporting 2025 https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2025:

- 0.20270 kg CO_2e / kWh natural gas,
- 0.17700 kg CO2e / kWh grid electricity generated; plus
- 0.01853 kg CO2e / kWh grid electricity transmission and distribution losses.

2) Estimated based upon 13.5 kWh electrical use over a 24-hour batch.

3) Estimated based upon 900 kg/hour LP steam at 720kWh/tonne, steam use for up to 16 hours per batch and assuming an 80% steam generation and distribution efficiency.

Table 4 presents a calculation of the more likely theoretical annual energy usage by the new plant in the initial phase of operation. The calculations have been based on processing of 8 batches of each product (16 batches in total).

Table 4: Global Warming Potential – Estimated Annual Emissions

Energy Source	Estimated kWh per Batch	Estimated kWh per Year (16 Batches)	Conversion Factor (1)	CO_2 Equivalent kg
Electricity	324	5,184	0.19553	1,014
Gas	12,960	207,360	0.20270	42,032
Total				**43,046**

4.3 Surface Water

The changes proposed by this variation will not lead to any change in the methods used for the treatment of wastewater at the site.

The new site process will lead to small volumes of water emissions from the vacuum pump liquid ring system, where trace amounts of VOCs may potentially be present in the water collected in the separator unit. This water will be discharged into the sitewide process drainage system for treatment in the onsite effluent treatment plant before discharging to the Manchester Ship Canal (MSC) via emission point W1. The onsite ETP and discharge to the MSC are regulated under Environmental Permit BM0508IG.

The quantities of water expected to be discharged from this system are very low (as the main cooling duty is closed loop via the site cooling water system and a heat exchanger) so it is not anticipated that the new plant will create any identifiable or significant change in the flow or composition of the effluent treated in the onsite ETP and discharged to the MSC or cause the site to exceed its current discharge emission limit.

No amendment to the consented discharge to the MSC is required.

The potential for impacts on surface waters is therefore considered to be restricted to incidents involving accidental losses into the site drainage systems.

A qualitative assessment of surface water emissions risk is provided in Table 5.

4.4 Odour

The proposed new process operations at the installation are not expected to handle or produce any particularly odorous materials. The most odorous material would be epichlorhydrin. However, emissions of epichlorhydrin will be abated by the scrubber to below the BAT AEL of 2mg/Nm³ and is not expected to lead to any offsite odour impacts given that the odour threshold is 0.93ppm.

The new process plant is not located in proximity to any odour sensitive offsite receptors (see Table 2), with the nearest residential receptor being approximately 1.1km from the plant.

Qualitative assessment of the potential odour impacts associated with the proposed new process operations are presented in Section 4.6 in Table 6.

A detailed quantitative odour impact assessment has not been prepared as part of this application.

4.5 Accident Risk Assessment

A qualitative assessment of accident risk is provided in Table 7.

4.6 Noise and Vibrations

The new plant is located on an existing industrial site and in an area surrounded by other industrial sites and operations – see Section 2.

- The nearest residential property is located approximately 1.1km to the west of the site at Turing Avenue.
- The closest educational facility is Wolverham Primary & Nursery School which is approximately 1.3km to the southwest of the site.
- There are no hospitals within 2km of the site

The site has not received any historical noise complaints.

Given the nature of the new plant, the relatively low potential for significant noise generation, the surrounding land use, and the distance to the nearest noise sensitive receptors, no significant noise impacts are expected as a result of the operation of the new plant.

A qualitative assessment of noise emissions risk is provided in Table 8.

4.7 Fugitive Emissions

The processing plant has been designed to minimise fugitive / diffuse emissions where possible through the routing of emissions from the process reactor and associated systems into an emissions abatement system (condenser / scrubber).

A qualitative assessment of fugitive emissions risk is provided in Table 9.

Table 5: Surface Water Risk Assessment

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the Overall Risk
Loss of containment onsite Spillage and Leakage of raw materials and other potential pollutants impacting the nearby surface water	Surface water including the Manchester Ship Canal and eventually the Mersey Estuary.	Ground	There is no direct route for potential pollutants to impact on surface waters. The quantities of water expected to be discharged during normal operation of the new process plant are very low (as the main cooling duty is closed loop via the site cooling water system and a heat exchanger) so it is not anticipated that the new plant will create any identifiable change in the flow or composition of the effluent discharged to the Manchester Ship Canal or cause the site to exceed its current discharge emission limit. All process operations are undertaken using appropriately designed primary containment systems e.g. tanks, reactors, pipework etc. All areas of the new plant used for storage, handling or processing of materials that could be potentially polluting to surface waters are installed with suitable secondary containment provisions in the form of concrete hardstanding, or bunding. All secondary containment systems have been designed to provide an impermeable barrier to pollution entering groundwater and have been appropriately sized to afford complete containment of the volumes of materials used in the plant in line with the requirements of Ciria C736. Surface water drainage from around the contained process areas would be directed into the sitewide process drainage system for containment or treatment in the onsite effluent treatment plant before discharging to the Manchester Ship Canal (MSC) via emission point W1 if within consented emission limits. Hence the risk management measures provided are expected to prevent losses to surface waters.	Low	Contamination of surface water from spillages or loss of containment.	Low

Table 6: Odour Risk Assessment

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the Overall Risk
Handling of potentially odorous raw materials	Local residents and nearby commercial premises	Air	The proposed new process operations at the installation are not expected to handle or produce any particularly odorous materials. The most odorous material would be epichlorhydrin. The processing plant has been designed to collect all emissions from the process reactor and associated systems into an emissions abatement system (condenser / scrubber). The emissions of epichlorhydrin will be abated by the scrubber to below the BAT AEL of 2mg/Nm³ and is not expected to lead to any offsite odour impacts given that the odour threshold is 0.93ppm. The new process plant is not located in proximity to any odour sensitive offsite receptors (see Table 2), with the nearest residential receptor being approximately 1.1km from the plant.	Low	Increase odour emissions impacting human receptors.	Low

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the Overall Risk
			Hence, there is not considered to be any significant potential for offsite odour impacts.			

Table 7: Accident Risk Assessment

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the Overall Risk
Loss of containment onsite Spillage and Leakage of raw materials and other potential pollutants	Underlying soils and groundwater	Direct loss to ground	All process operations are undertaken using appropriately designed primary containment systems e.g. tanks, reactors, pipework etc. All areas of the new plant used for storage, handling or processing of materials that could be potentially polluting are installed with suitable secondary containment provisions in the form of concrete hardstanding, or bunding. All secondary containment systems have been designed to provide an impermeable barrier to pollution entering groundwater and have been appropriately sized to afford complete containment of the volumes of materials used in the plant in line with the requirements of Ciria C736. Hence the risk management measures provided are expected to prevent losses soil and groundwater from the new process plant.	Low	Spillage to building floor / bunded area contained to site.	Low
Fire/explosion	Air – smoke and products of combustion Local receptors Adjacent commercial/industrial units Soil, surface water and groundwater for contaminated firewater	Air Direct flow to ground or surface water(contaminated firewater)	The design of the new process has been subject to full assessment of both safety and environmental risks through the use of HAZOP assessments. Other Process Hazard Analysis (PHA) techniques have also been used as appropriate, e.g. SIL Assessments. Any changes or amendments to the processes will be subject to a Management of Change (MoC) process used alongside the HAZOP processes. Foreseeable accident and incident risks are identified within the HAZOP processes and where possible designed out, or if this is not possible suitable control measures are in place to reduce the risk to As Low As Reasonably Practicable. As part of the site operating systems, the site holds Accident Prevention, Management, and Emergency Response Plans to cover the site operations. Consideration has also been given to fire prevention and response measures in place at the new plant. e.g. the plant is installed with suitable fire detection and alarm systems, and the isotainer loading area is installed with a foam deluge system. Consideration will also be given to the type of fire suppression that would be used to fight a fire at the site and whether firewater would be used, or alternative firefighting methods e.g. powder, inert gas, CO2, etc. All flammable materials will be stored in the tank farm, or the flammable materials drum and IBC storage areas and only moved into the building when in use, so as to minimise the risk of a significant fire within the building.	Low – on the assumption that suitable control measures will be in place.	Human health impacts(air) Soil/groundwater/surface water contamination (contaminated firewater)	Low

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the Overall Risk
			All areas of the new plant used for storage, handling or processing of materials that could be potentially flammable are installed with suitable secondary containment bunding. All secondary containment systems have been designed to provide an impermeable barrier to pollution entering groundwater and have been appropriately sized to afford complete containment of the volumes of materials used in the plant in line with the requirements of Ciria C736, which includes a containment capacity allowance firewater.			
Vandalism/Security Leading to loss of containment	Local Residents and businesses (air emissions) Soil and Groundwater (Loss of containment – liquids)	Air Direct loss to ground	The site is secured at all times; the majority of the site activities and storage are inside buildings. There are security systems at the site e.g. CCTV. The site management team will be responsible for implementing risk management measures in accordance with appropriate procedures outlined in the EMS. All areas of the new plant used for storage, handling or processing of materials that could be potentially polluting are installed with suitable secondary containment provisions in the form of concrete hardstanding, or bunding. All secondary containment systems have been designed to provide an impermeable barrier to pollution entering groundwater and have been appropriately sized to afford complete containment of the volumes of materials used in the plant in line with the requirements of Ciria C736.	Low	Theft. Spillage of materials Harm to human health. Pollution risks are similar to those assessed in the soil and groundwater pollution risk assessment.	Low
Flooding Leading to loss of pollutants into flood water	Soil, Groundwater, nearby watercourses including Manchester Ship Canal and Mersey Estuary Local residents and nearby commercial premises	Flood waters flow into site and then away over land.	The Flood Map for Planning reveals that the site lies within Flood Zone 3: designated as having a 1 in 100 or greater annual probability of river flooding. The Long-Term Flood Risk Assessment indicates that the site is at 'low risk' of flooding from surface water. Low risk means that this area has a chance of flooding of between 0.1% and 1% each year. Flooding from surface water is difficult to predict as rainfall location and volume are difficult to forecast. In addition, local features can greatly affect the chance and severity of flooding. Although the proposed area for the new plant will be in a Flood Zone 3, the Long-Term Flood Risk is Low. All materials will be stored within appropriate storage areas on site and in bespoke storage units.	Low	Contaminated flood waters impacting land, groundwater and possibly watercourses	Low
Failure of site surfacing/site secondary containment	Soil and Groundwater	Direct loss to ground	The Site Condition Report Addendum (Application Supporting Documentation Appendix B1) presents the list of new raw materials and products that will be produced and stored onsite, with full appraisal of potential impacts and the pollution prevention and control measures in place. All primary containment systems will be subject to scheduled inspection and maintenance to ensure integrity. Drums and IBC's will be inspected on arrival to ensure integrity and then subject to regular visual checks to ensure they remain in good order with no leaks / losses. All secondary containment systems will be subject to regular visual checks and scheduled inspection to ensure they remain fit for purpose. Site hardstanding will also be visually checked regularly and subject to periodic inspection to ensure it remains in good order. Any defect identified will be prioritised for repair.	Low	Loss of potential pollutants to soil / groundwater	Low

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the Overall Risk
Failure of air emissions abatement systems	Increased emissions of VOCs to air Possible impacts on local residents and nearby commercial premises	Air	All equipment is subject to pre-planned preventative maintenance checks and maintained in accordance with manufacturer's recommendations. Should any problems, malfunctions or breakdowns occur, which affects the ability to safely function, the manufacturing will stop until the problems are rectified. Monitoring systems are in place to ensure that all relevant parameters are recorded and that any operating faults can be detected. When detected, action would be taken to make the process safe and minimise environmental impacts	Low	Increased emissions of VOCs to air	Low
Failure of site services: heating, power, water supply	Air emissions Possible impacts on local residents and nearby commercial premises	Air	All equipment is subject to pre-planned preventative maintenance checks and maintained in accordance with manufacturer's recommendations. Should any problems, malfunctions or breakdowns occur, which affects the ability to safely function, the manufacturing will stop until the problems are rectified. Processes would be placed into a safe state with negligible environmental emissions	Low	None	Not significant

Table 8: Noise and Vibrations

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
To Air:						
Operation of pumps, fans, drives and motors as well as the operation of the caustic scrubber.	Local residents and nearby commercial units	Air	The new process plant is expected to have relatively low noise levels which will have a similar noise profile to the existing activities undertaken at the installation and hence no particular change to the overall site noise profile is expected. The new plant is located on an existing industrial site and in an area surrounded by other industrial sites and operations. • The nearest residential property is located approximately 1.1km to the west of the site at Turing Avenue. • The closest educational facility is Wolverham Primary & Nursery School which is approximately 1.3km to the southwest of the site. • There are no hospitals within 2km of the site The site has not received any historical noise complaints. Given the nature of the new plant, the relatively low potential for significant noise generation, the surrounding land use, and the distance to the nearest noise sensitive receptors, no significant noise impacts are expected as a result of the operation of the new plant.	Low	Minor noise emissions.	Not significant.

Table 9: Fugitive Emissions Risk Assessment

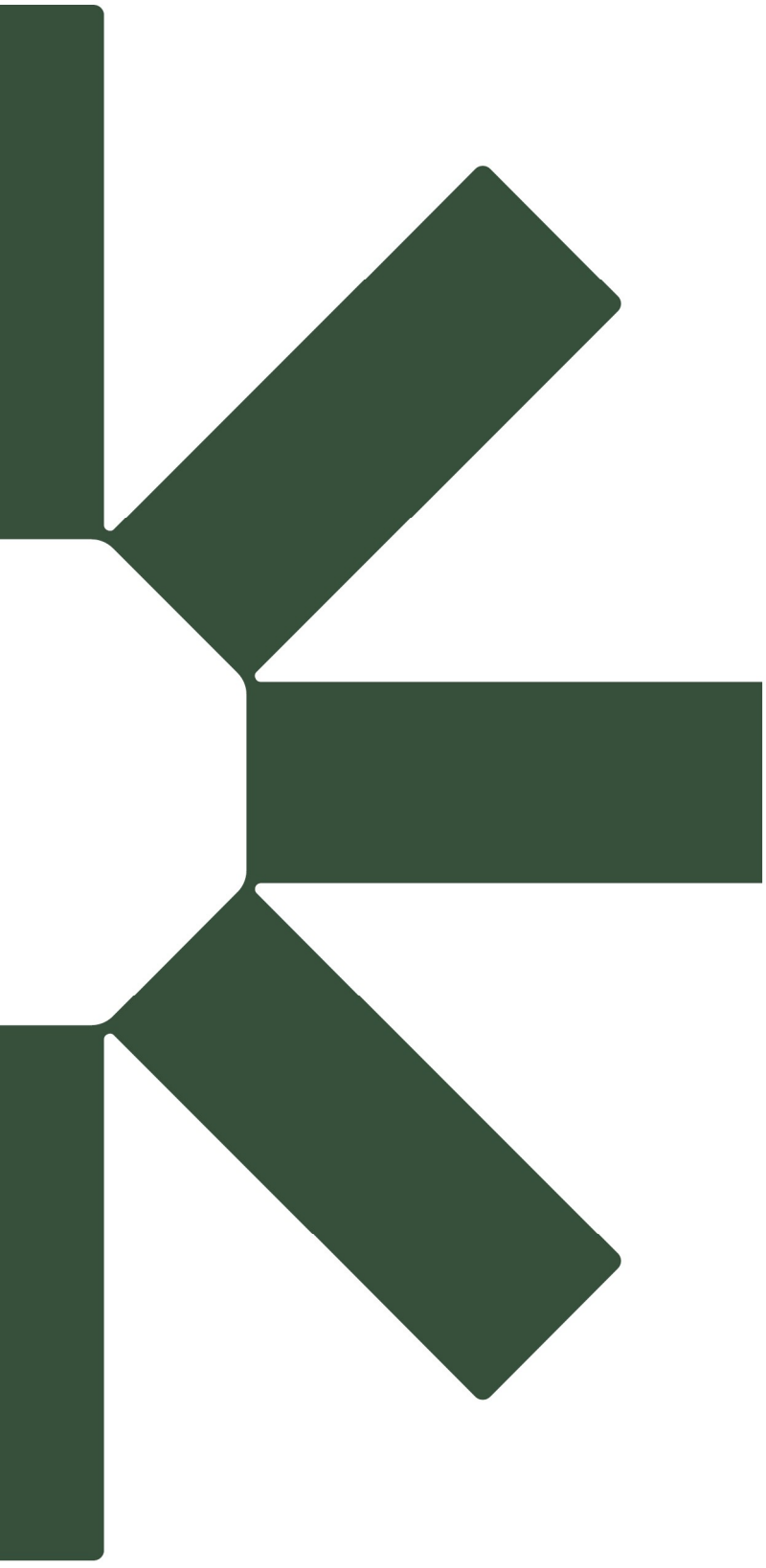
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
To Air:						
Dust Dust from storage and handling of granulated solid and powder raw materials	Local residents and nearby commercial units	Air	Dry and powdered materials will be delivered to site by road and will be contained within bags, sacks or other suitable smaller containers. All dry and powdered materials will be stored within dedicated warehouse storage areas which have impermeable concrete flooring.	Low	Minor emission of dust	Not significant

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
			Packaging will be inspected on deliver and if damaged, the delivery will either be rejected, or the damaged bags placed into a new intact bag (double bagged). All dry and powdered materials will be stored within dedicated warehouse storage areas which have impermeable concrete flooring. Any spillages of dry or powdered materials will be cleaned up at point of spillage using dry techniques e.g. brush and dustpan. All powder additions to the process from bulk bags etc. will also be made via a powder handling and dispensing system located within a laminar flow booth which will be extracted into the caustic scrubber. The new plant is located on an existing industrial site and in an area surrounded by other industrial sites and operations. • The nearest residential property is located approximately 1.1km to the west of the site at Turing Avenue. • The closest educational facility is Wolverham Primary & Nursery School which is approximately 1.3km to the southwest of the site. • There are no hospitals within 2km of the site Hence the potential for impacts relating to dusts is considered to be negligible.			
Fugitive VOC Emissions	Local residents and nearby commercial units	Air	The processing plant has been designed to collect all emissions from the process reactor and associated systems into an emissions abatement system (condenser / scrubber), hence minimising the potential for diffuse VOC emissions. See Section 8.1 of the Technical Supporting Document for information on VOCs and emissions to air.	Low	Negligible VOC (solvents) emissions	Not significant.

5.0 Conclusion

The qualitative ERA and other supporting risk assessments have demonstrated that the proposed activities at the site will not pose any significant risk to the local environment.

The assessment has assumed that all required appropriate management and operating systems as well as all pollution prevention and control measures will be in place prior to the commencement of commissioning of the plant, and that these will be suitable and sufficient to minimise pollution risk.



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