

Permit Number: DP3832EF Operator: Biotage GB Limited  
Facility: Unit C IST House Form Number: WaterUsage1 / 31/01/2023

**Reporting of Water Usage for the year 2022**

Water Source	Usage (m <sup>3</sup> /year)	Specific Usage (m <sup>3</sup> /unit output)
Mains water	1724.2 m <sup>3</sup> / year	3758.1 m <sup>3</sup> / tonne
Site borehole	0.0 m <sup>3</sup> / year	
River abstraction	0.0 m <sup>3</sup> / year	
<b>TOTAL WATER USAGE</b>	<b>1724.2 m<sup>3</sup> / year</b>	<b>3758.1 m<sup>3</sup> / tonne</b>

Operator's comments :

Signed .....  
(authorised to sign as representative of Operator)

Date.....31/01/23 .....

Permit Number: DP3832EF

Operator: Biotage GB Limited

Facility: Unit C IST House

Form Number: Energy1 / 31/01/23

**Reporting of Energy Usage for the year 2022**

Energy Source	Energy Usage		Specific Usage (MWh/unit output)
	Quantity	Primary Energy (MWh)	
Electricity *	305.55 MWh	733.32 MWh	665.98 MWh / tonne
Natural Gas	22.04 MWh		48.04 MWh / tonne
Gas Oil	0.0 tonnes		
Recovered Fuel Oil	0.0 tonnes		
TOTAL	327.59 MWh		714.01 MWh / tonne

\* Conversion factor for delivered electricity to primary energy = 2.4

Operator's comments :

Signed .....  
(Authorised to sign as representative of Operator)

Date.....31/01/23.....

Permit Number: EPR/DP3832EF

Operator: Biotage GB Limited

Facility: Unit C IST House, Distribution Way.

Form Number: [Air1 / 31/01/23](#)

**Reporting of emissions to air for the period from 01/01/2022 to 31/12/2022**

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Uncertainty <sup>[4]</sup>
A1 Main building EP1	Hydrogen chloride	15.12 g/hr	Duration of batch reaction				
A1 Main building EP1	VOC - Methanol	4.0824 g/hr	Duration of batch reaction				
A2 Main building EP1	Hydrogen chloride	49.068 g/hr	Duration of batch reaction				
A2 Main building EP1	VOC - Methanol	45.684 g/hr	Duration of batch reaction				
A3 Main building EP1	Oxides of nitrogen (as NO <sub>2</sub> )	48.84 g/hr	Duration of batch reaction	13.63 g/hr (7.78 g/hr)	BS EN 14792:2017	04/09/19 - 05/09/19; 14:35 - 15:20	3
A3 Main building EP1	VOC - Methanol	355.68 g/hr	Duration of batch reaction	Not measured			
A4 Resin shed EP2	Hydrogen Bromide	0.6264 g/hr	Duration of batch reaction	0.074 g/hr (0.039 g/hr)	US EPA Method 26	03/09/19 - 04/09/19 13:07 - 12:30	13

Comment: re figures in Results column in brackets represent average emissions over the batch process.

- [1] The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum – maximum' measured values.
- [2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with Natural Resources Wales is used, then the appropriate identifier is given. In other cases the principal technique is stated, for example gas chromatography.
- [3] For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements the percentage of the process operating time covered by the result is given.
- [4] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed .....  
(Authorised to sign as representative of Operator)

Date.....31/01/23.....

Permit Number: EPR/DP3832EF

Operator: Biotage GB Limited

Facility: Unit C IST House, Distribution Way.

Form Number: [Performance1 / 31/01/23](#)

**Reporting of other performance indicators for the period 01/01/2022 to 31/12/2022**

Parameter	Units	
Polystyrene polymer	0.0810	tonnes/year for activity A1
Bromine	0.0589	tonnes/year for activity A1
Iron (III) chloride	0.0016	tonnes/year for activity A1
Dichloromethane	4.2619	tonnes/year for activity A1
Methanol	0.9429	tonnes/year for activity A1
Amorphous synthetic silica	0.2044	tonnes/year for activity A2
Ethylbenzene	0.4455	tonnes/year for activity A2
Imidazole	0.0102	tonnes/year for activity A2
Trichlorosilanes (various)	0.1022	tonnes/year for activity A2
Hexane	0.7770	tonnes/year for activity A2
Acetone	1.2003	tonnes/year for activity A2
Methanol	0.8100	tonnes/year for activity A2
Si – Thiol	0.1155	tonnes/year for activity A3
Nitric Acid	0.1413	tonnes/year for activity A3
Methanol	1.4238	tonnes/year for activity A3
Bonded silica sorbents	0.0040	tonnes/year for activity A4
Dichloromethane	0.0159	tonnes/year for activity A4
Chlorosulfonic acid	0.0053	tonnes/year for activity A4
Methanol	0.2009	tonnes/year for activity A4
Total amount of product produced – Activity A1	0.1046	tonnes
Total amount of product produced – Activity A2	0.2367	tonnes
Total amount of product produced – Activity A3	0.1147	tonnes
Total amount of product produced – Activity A4	0.0038	tonnes
Total amount of product produced	<b>0.4588</b>	tonnes

Parameter	Units	
Total amount of hazardous waste produced	61.559	tonnes
Total amount of non-hazardous waste produced	26.46	tonnes
Total amount of mixed recycling waste produced	67.25	tonnes

Operator's comments :

NB Waste quantities added to this form as there was nowhere else to report them.

Signed .....  .....  
(Authorised to sign as representative of Operator)

Date.....31/01/23.....