

Permit Reference Number: **NP 3433 BC**

Operator: **Convatec Limited**

Installation: **Convatec Rhymney Hydrocel Plant**

Form Number: **A1**

**Reporting of Emissions to Air for the period from: 01 Oct 2021 to 31 Dec 2021**

| Emission Point | Substance / Parameter                           | Emission Limit Value | Result [1] | Test Method [2] [6] | Sample Date and Times [3]   | Accreditation/ Certification [4] | Uncertainty [5] |
|----------------|-------------------------------------------------|----------------------|------------|---------------------|-----------------------------|----------------------------------|-----------------|
| A1A            | VOC <sup>a</sup><br>(extractive)                | 20mg/m <sup>3</sup>  | 0.33       | BS EN 12619         | 17/12/2021<br>09:54 – 10:54 | MCERT / ISO<br>17025             | +/- 0.41        |
| A1A            | Oxides of Nitrogen <sup>a</sup><br>(extractive) | 50mg/m <sup>3</sup>  | 9.1        | BS EN 14792         | 17/12/2021<br>09:54-10:54   | MCERT / ISO<br>17025             | +/- 2.2         |
| A1A            | Carbon Monoxide <sup>a</sup><br>(extractive)    | 100mg/m <sup>3</sup> | 0.24       | BS EN 15058         | 17/12/2021<br>09:54-10:54   | MCERT / ISO<br>17025             | +/- 0.6         |

New monitoring requirements as per permit variation v005, confirmed via CAR: **CAR\_NRW0034967**

Note a: Expressed as Total Carbon

[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 the Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, e.g. 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 accreditation status of the equipment and/or the monitoring organisation, as appropriate, for the methods used for both sampling and analysis.

[5] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

[6] Monitoring methods and schedules to be agreed in writing by the Environment Agency on completion of Improvement Programme items IP6, IP7 and IP8, when the Environment Agency will also set Emission Limit Values for these Release Points by varying the Conditions of the Permit. The reference measurements used shall be agreed in writing by the Agency.

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

Date 08/02/2022 .....

Permit Reference Number: **NP 3433 BC**

Operator: **Convatec Limited**

Installation: **Convatec Rhymney Hydrocel Plant**

Form Number: **S1**

**Reporting of Emissions to Sewer for the period from: 01 Oct 2021 to 31 Dec 2021**

| Emission Point | Substance / Parameter | Emission Limit Value | Result <sup>[1]</sup> | Test Method <sup>[2]</sup> | Sample Date and Times <sup>[3]</sup> | Accreditation/ Certification <sup>[4]</sup> | Uncertainty <sup>[5]</sup> |
|----------------|-----------------------|----------------------|-----------------------|----------------------------|--------------------------------------|---------------------------------------------|----------------------------|
| S1             | pH                    | 6-11                 | 7.9                   | WAS 039                    | 12/11/2021<br>06:00AM                | UKAS/ISO17025                               | +/-2.85 to +/-1.39%        |
| S1             | COD                   | 4000mg/l             | 23                    | WAS 040                    | 12/11/2021<br>06:00AM                | UKAS/ISO17025                               | +/-5.07 to +/-2.36%        |
| S1             | Suspended solids      | 1000mg/l             | 12                    | WAS 006                    | 12/11/2021<br>06:00AM                | UKAS/ISO17025                               | +/-19.93%                  |

[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 the Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, e.g. colorimetry.

[3] For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements, or flow/time proportional samples, the percentage of the process operating time covered by the monitoring is given.

[4] The accreditation status of the equipment and/or the monitoring organisation, as appropriate, for the methods used for both sampling and analysis.

[5] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated

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Date **08/02/2022** .....

Permit Reference Number: **NP 3433 BC**

Operator: **Convatec Limited**

Installation: **Convatec Rhymney Hydrocel Plant**

Form Number: **SED1**

**Reporting of Solvent Emissions for the period from: 01 Oct 2021 to 31 Dec 2021**

| <b>Emission Point</b>                                                   | <b>Substance / Parameter</b> | <b>Emission Limit Value</b> | <b>Result <sup>[1]</sup></b> |
|-------------------------------------------------------------------------|------------------------------|-----------------------------|------------------------------|
| All emissions (including fugitive, excluding solvent sent for recovery) | VOC                          | <5% of total solvent input  | 1.6% by mass balance         |

[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.

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Permit Reference Number: **NP 3433 BC**

Operator: **Convatec Limited**

Installation: **Convatec Rhymney Hydrocel Plant**

Form Number: **R1**

**Reporting of Waste Disposal and Recovery for the year: 2021**

| Waste Description            | Disposal   |                | Recovery       |
|------------------------------|------------|----------------|----------------|
|                              | Route      | Tonnes         | Tonnes         |
| Solvent/Water                | Tanker     | 5453           | 2719           |
| Trickling filter blowdown    | Tanker     | 0              | 0              |
| Bund water removal           | Tanker     | 0              | 0              |
| Landfill Waste               | Containers | 3.5            | 0              |
| Recycled Waste               | Skip       | 68.69          | 68.69          |
| Energy from waste            | Skip       | 89.88          |                |
| 1) Total hazardous waste     |            | 5456.5         | 2719           |
| 2) Total non-hazardous waste |            | 158.57         | 68.69          |
|                              |            |                |                |
| <b>TOTAL WASTE</b>           |            | <b>5615.07</b> | <b>2787.69</b> |

| Trends in Waste Disposal and Recovery |                                                       |                                             |                                                       |
|---------------------------------------|-------------------------------------------------------|---------------------------------------------|-------------------------------------------------------|
| Year                                  | Parameter                                             |                                             |                                                       |
|                                       | Total hazardous waste disposed and recovered (tonnes) | Total waste disposed and recovered (tonnes) | Total Hazardous Waste per unit output (tonnes /tonne) |
| 2005                                  | -                                                     | -                                           | -                                                     |
| 2006                                  | 1393                                                  | 1402                                        | 12                                                    |
| 2007                                  | 2255                                                  | 2272                                        | 12.6                                                  |
| 2008                                  | 2129                                                  | 2146                                        | 12.5                                                  |
| 2009                                  | 1628                                                  | 1641                                        | 12.1                                                  |
| 2010                                  | 1424                                                  | 1437                                        | 12.3                                                  |
| 2011                                  | 1922                                                  | 1944                                        | 12.9                                                  |
| 2012                                  | 1750                                                  | 1776                                        | 11.4                                                  |
| 2013                                  | 2477                                                  | 2497                                        | 10.2                                                  |
| 2014                                  | 2399                                                  | 2416                                        | 9.63                                                  |
| 2015                                  | 2345                                                  | 2350                                        | 9.48                                                  |
| 2016                                  | 2818                                                  | 2835                                        | 9.36                                                  |
| 2017                                  | 3248                                                  | 3282                                        | 9.28                                                  |
| 2018                                  | 2988                                                  | 3033                                        | 9.03                                                  |
| 2019                                  | 2760                                                  | 2850                                        | 9.14                                                  |
| 2020                                  | 2422                                                  | 2578                                        | 8.90                                                  |
| 2021                                  | 2719                                                  | 2788                                        | 8.50                                                  |

Operator's comments :

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Date 08/02/2022 .....

Permit Reference Number: **NP 3433 BC**

Operator: **Convatec Limited**

Installation: **Convatec Rhymney Hydrocel Plant**

Form Number: **WU1**

**Reporting of Water Usage for the year: 2021**

| Water Source             | Usage (m <sup>3</sup> ) | Specific Usage (m <sup>3</sup> /tonne) |
|--------------------------|-------------------------|----------------------------------------|
|                          |                         |                                        |
| Mains water (potable)    | 10655                   | 33.29                                  |
| Non potable water        | 0                       | 0                                      |
|                          |                         |                                        |
|                          |                         |                                        |
|                          |                         |                                        |
| <b>TOTAL WATER USAGE</b> | <b>10655</b>            |                                        |

| Trends in Water Usage |                                     |                                                           |
|-----------------------|-------------------------------------|-----------------------------------------------------------|
| Year                  | Parameter                           |                                                           |
|                       | Total Water usage (m <sup>3</sup> ) | Total Water Usage per unit output (m <sup>3</sup> /tonne) |
| 2005                  |                                     |                                                           |
| 2006                  | 11609                               | 100                                                       |
| 2007                  | 10321                               | 57.7                                                      |
| 2008                  | 9769                                | 57.5                                                      |
| 2009                  | 9827                                | 72.8                                                      |
| 2010                  | 7794                                | 56.5                                                      |
| 2011                  | 12012                               | 80.6                                                      |
| 2012                  | 13516                               | 87.8                                                      |
| 2013                  | 28803                               | 119                                                       |
| 2014                  | 32171                               | 129.2                                                     |
| 2015                  | 25008                               | 100.8                                                     |
| 2016                  | 25439                               | 84.5                                                      |
| 2017                  | 34323                               | 98.1                                                      |
| 2018                  | 31788                               | 94.6                                                      |
| 2019                  | 22036                               | 72.9                                                      |
| 2020                  | 11182                               | 41.11                                                     |
| 2021                  | 10655                               | 33.29                                                     |

Operator's comments :

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Permit Reference Number: **NP 3433 BC**

Operator: **Convatec Limited**

Installation: **Convatec Rhymney Hydrocel Plant**

Form Number: **E1**

**Reporting of Energy Usage for the year: 2021**

| Energy Source | Energy Usage  |                      | Primary CO <sub>2</sub> Produced (tonnes) |
|---------------|---------------|----------------------|-------------------------------------------|
|               | Quantity(MWh) | Primary Energy (MWh) |                                           |
|               |               |                      |                                           |
| Electricity * | 3449.74       | 8279.38              | 3560.13                                   |
| Gas           | 6281.53       | 6281.53              | 1193.49                                   |
|               |               |                      |                                           |
|               |               |                      |                                           |
|               |               |                      |                                           |
| TOTAL         | 9731.27       | 14560.91             | 4753.62                                   |

| Trends in Energy Usage |                            |                                           |                                                          |
|------------------------|----------------------------|-------------------------------------------|----------------------------------------------------------|
| Year                   | Parameter                  |                                           |                                                          |
|                        | Primary Energy usage (MWh) | Primary CO <sub>2</sub> Produced (tonnes) | Primary CO <sub>2</sub> per tonne product (tonnes/tonne) |
| 2005                   |                            |                                           |                                                          |
| 2006                   | 7118                       | 2504                                      | 21.6                                                     |
| 2007                   | 7401                       | 2628                                      | 14.1                                                     |
| 2008                   | 8242                       | 2859                                      | 16.8                                                     |
| 2009                   | 7578                       | 2690                                      | 19.9                                                     |
| 2010                   | 7718                       | 2723                                      | 19.7                                                     |
| 2011                   | 8201                       | 2886                                      | 19.4                                                     |
| 2012                   | 9010                       | 1566                                      | 10.2                                                     |
| 2013                   | 13516                      | 2382                                      | 9.84                                                     |
| 2014                   | 13281                      | 2338                                      | 9.4                                                      |
| 2015                   | 13349                      | 2349                                      | 9.4                                                      |
| 2016                   | 13815                      | 2435                                      | 8.1                                                      |
| 2017                   | 14946                      | 4964                                      | 14.2                                                     |
| 2018                   | 14673                      | 4893                                      | 14.6                                                     |
| 2019                   | 15136                      | 4887                                      | 16.2                                                     |
| 2020                   | 14497                      | 4705                                      | 17.3                                                     |
| 2021                   | 14561                      | 4754                                      | 14.85                                                    |

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

Operator's comments :

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Installation: **Convatec Rhymney Hydrocel Plant**

Form Number: **PI1**

**Reporting of Performance Indicators for the year: 2021**

| Annual Production/Treatment             |     |
|-----------------------------------------|-----|
| Production of Hydrocel                  | 234 |
| Percentage converted to Silver Hydrocel | 36  |

| Environmental Performance Indicators [EPI's]         |            |          |                                     |                                           |
|------------------------------------------------------|------------|----------|-------------------------------------|-------------------------------------------|
| Parameter                                            | Annual EPI | Units    | Trends in Environmental Performance |                                           |
|                                                      |            |          | Year                                | Parameter                                 |
| VOC emission per tonne of product                    | 0.08       | Kg/tonne |                                     | VOC released per tonne product (Kg/tonne) |
| Waste produced per tonne of product                  | 8500       | Kg/tonne |                                     |                                           |
| Energy use: primary carbon dioxide per tonne product | 14850      | Kg/tonne | 2005                                |                                           |
|                                                      |            |          | 2006                                | 131.1                                     |
|                                                      |            |          | 2007                                | 92.5                                      |
|                                                      |            |          | 2008                                | 61.5                                      |
|                                                      |            |          | 2009                                | 61.1                                      |
|                                                      |            |          | 2010                                | 62.1                                      |
|                                                      |            |          | 2011                                | 326.6                                     |
|                                                      |            |          | 2012                                | 167.1                                     |
|                                                      |            |          | 2013                                | 306.5                                     |
|                                                      |            |          | 2014                                | 382.5                                     |
|                                                      |            |          | 2015                                | 380.8                                     |
|                                                      |            |          | 2016                                | 468.0                                     |
|                                                      |            |          | 2017                                | 174.9                                     |
|                                                      |            |          | 2018                                | 178.2                                     |
|                                                      |            |          | 2019                                | 0.25                                      |
|                                                      |            |          | 2020                                | 0.92                                      |
|                                                      |            |          | 2021                                | 0.08                                      |

Operator's comments : Annual U1 production (tonnes):- 2011 – 149, 2012 -154, 2013 – 242, 2014 – 249, 2015 – 248, 2016 – 312, 2017 – 350, 2018 – 336 2019 – 302, 2020 – 272, 2021 -320

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