

Reference Number: BU2110IS

Operator: Cabot Carbon Limited

Installation: Barry Silicon-Based Manufacturing Installation

Form Number: A1 / Form Dated 1<sup>st</sup> February 2006

### Reporting of Emissions to Air for Carbon Monoxide for the period 1 January 2021 to 31 March 2021

| Emission Point | Substance / Parameter | Emission Limit Value <sup>[6]</sup> | Result <sup>[1][7]</sup><br>[Note A] | Test Method <sup>[2]</sup> | Sample Date and Times <sup>[3]</sup>               | Accreditation/Certification <sup>[4]</sup> | Uncertainty<br>+/- <sup>[5]</sup> |
|----------------|-----------------------|-------------------------------------|--------------------------------------|----------------------------|----------------------------------------------------|--------------------------------------------|-----------------------------------|
| A1             | Carbon monoxide       | 3500 mg/m <sup>3</sup>              | 1820 mg/m <sup>3</sup>               | TGN M22                    | 10.03.21: 09:20-10:20,<br>10:21-11:21, 11:28-12:28 | MCERTS / UKAS                              | +/- 79 mg/m <sup>3</sup>          |

[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.

[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. Please note TGN M22 method replacing ASTM D6348-03 in accordance with EA (NRW) Monitoring Standard.

[3] For non-continuous measurements the date and time of the sample that produced 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. The basis of any other uncertainty figure needs to be stated. Where no figure is available the Agency will need to agree an appropriate uncertainty value.

[6] Corrected to 273K, 101.3Kpa.

[7] Inclusion of extractive test for CO which agrees to 6 monthly CO extractive sampling, but the CO process monitoring will be continued on a continuous basis for process control. Documented in CAR\_NRW0035674.

[Note A]: Results are given as averages being more representative, as agreed with NRW.

Signed .....

Date: 30<sup>th</sup> April 2021

(authorised to sign as representative of the Operator)

Reference Number: BU2110IS

Operator: Cabot Carbon Limited

Installation: Barry Silicon-Based Manufacturing Installation

Form Number: A3 / Form Dated 1<sup>st</sup> February 2006

### Reporting of Emissions to Air for the period 1 January 2021 to 31 March 2021

| Emission Point | Substance / Parameter                 | Emission Limit Value <sup>[6]</sup> | Result <sup>[1][7]</sup><br>[Note A] | Test Method <sup>[2]</sup> | Sample Date and Times <sup>[3][7]</sup>                                         | Accreditation/Certification <sup>[4]</sup> | Uncertainty<br>+/- <sup>[5]</sup> |
|----------------|---------------------------------------|-------------------------------------|--------------------------------------|----------------------------|---------------------------------------------------------------------------------|--------------------------------------------|-----------------------------------|
| A1             | Chlorine                              | 10mg/m <sup>3</sup> <sup>[8]</sup>  | 6.9 mg/m <sup>3</sup>                | US EPA Method 26A          | 10.03.21: 09:10-09:40,<br>09:45-10:15, 10:20-10:50,<br>10:55-11:25, 11:30-12:00 | MCERTS / UKAS                              | +/- 0.8 mg/m <sup>3</sup>         |
| A1             | Chloromethanes<br>(as methylchloride) | 50mg/m <sup>3</sup>                 | 4.87 mg/m <sup>3</sup>               | BS EN 13649                | 10.03.21: 09:10-10:10, 10:12-<br>11:12, 11:14-12:14                             | MCERTS / UKAS                              | +/- 0.97 mg/m <sup>3</sup>        |
| A1             | Hydrogen chloride                     | 10mg/m <sup>3</sup>                 | 2.8 mg/m <sup>3</sup>                | TGN M22                    | 10.03.21: 09:20-10:20, 10:21-<br>11:21, 11:28-12:28                             | MCERTS / UKAS                              | +/- 0.27 mg/m <sup>3</sup>        |

[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.

[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. Please note TGN M22 method replacing ASTM D6348-03 in accordance with EA (NRW) Monitoring Standard.

[3] For non-continuous measurements the date and time of the sample that produced 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. The basis of any other uncertainty figure needs to be stated. Where no figure is available the Agency will need to agree an appropriate uncertainty value.

[6] Corrected to 273K, 101.3Kpa.

[7] The tests were carried out at scrubber pH (pH 8.8) to assist in maintaining the improvement in caustic scrubber efficiency to reduce chlorine emissions at A1 stack outlet.

[Note A]: Results are given as averages being more representative, as agreed with NRW.

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

Date: 30<sup>th</sup> April 2021

Permit Reference Number: BU2110IS

Operator: Cabot Carbon Limited

Installation: Barry Silicon-Based Manufacturing Installation

Form Number: W1 / Form Dated 1<sup>st</sup> February 2006

### Reporting of Emissions to Water (other than to Sewer) for the period from 1 January 2021 to 31 March 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> |
|----------------|-----------------------|-----------------------|-----------------------|--------------------------------------------------|--------------------------------------|---------------------------------------------|----------------------------|
| W1             | Oil and grease        | 5mg/l <sup>[6]</sup>  | <0.60                 | IR Spectrometry - EA Test 362<br>ISBN 0117517283 | 10.03.21 @011:00hrs                  | UKAS                                        | +/- 20.0%                  |
|                | BOD <sub>5</sub>      | 20mg/l <sup>[6]</sup> | <1                    | ISBN 011 7522120                                 | 10.03.21 @011:00hrs                  | UKAS                                        | +/- 23.6%                  |
|                | pH                    | >5, <9 <sup>[7]</sup> | 7.2                   | BS 6068-2.50:1995                                | 10.03.21 @011:00hrs                  | UKAS                                        | +/- 20.3%                  |
| W2             | Oil and grease        | 5mg/l <sup>[6]</sup>  | <0.60                 | IR Spectrometry - EA Test 362<br>ISBN 0117517283 | 10.03.21 @011:00hrs                  | UKAS                                        | +/- 20.0%                  |
|                | BOD <sub>5</sub>      | 20mg/l <sup>[6]</sup> | <1                    | ISBN 011 7522120                                 | 10.03.21 @011:00hrs                  | UKAS                                        | +/- 23.6%                  |
|                | pH                    | >5, <9 <sup>[7]</sup> | 7.8                   | BS 6068-2.50:1995                                | 10.03.21 @011:00hrs                  | UKAS                                        | +/- 20.3%                  |
| W3             | Oil and grease        | 5mg/l <sup>[6]</sup>  | <0.60                 | IR Spectrometry - EA Test 362<br>ISBN 0117517283 | 10.03.21 @011:00hrs                  | UKAS                                        | +/- 20.0%                  |
|                | BOD <sub>5</sub>      | 20mg/l <sup>[6]</sup> | <1                    | ISBN 011 7522120                                 | 10.03.21 @011:00hrs                  | UKAS                                        | +/- 23.6%                  |
|                | pH                    | >5, <9 <sup>[7]</sup> | 7.6                   | BS 6068-2.50:1995                                | 10.03.21 @011:00hrs                  | UKAS                                        | +/- 20.3%                  |

[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.

[3] For non-continuous measurements the date and time of the sample that produced 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. The basis of any other uncertainty figure needs to be stated. Where no figure is available the Agency will need to agree an appropriate uncertainty value.

[6] The emission limit value for Oil and grease, and BOD<sub>5</sub>, is expressed as a maximum individual value.

[7] The emission limit values for pH are expressed as minimum and maximum individual values.



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

Date: 30<sup>th</sup> April 2021