

Permit Number: EPR/BU5453IY
Operator: AGC Chemicals Europe Limited
Facility: AGC Chemicals Europe, Hillhouse

Form Number: Air 8 / 2017

Reporting of periodically monitored emissions to air for the period from ...January 2024... to ...June 2024...

Emission Point	Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method [2]	Result Date and Time [3]	Uncertainty [4]	Comments
A1	Carbon monoxide (CO)	No limit set	A period of stable operation	3.92 kg/hr	In-house method	18/03/2024 to 24/03/2024		Highest weekly average for period 1 January to 30 June 2024
		25 tonnes	Annually	4.42 tonnes	Calculation	01/01/2024 to 30/06/2024		Total tonnage emitted for period 1 January to 30 June 2024
A1	Tetrafluoroethylene (TFE) Class B Volatile Organic Compounds (VOC) [5]	2 kg/hour	A period of stable operation	1.05 kg/hr	In-house method	12/02/2024 to 18/02/2024		Highest weekly average for period 1 January to 30 June 2024
		7 tonnes	Annually	0.52 tonnes	Calculation	01/01/2024 to 30/06/2024		Total tonnage emitted for period 1 January to 30 June 2024
A1	Trifluoromethane (R23) Class A VOC [5]	500 g/hour	A period of stable operation	0.31 kg/hr	In-house method	26/02/2024 to 03/03/2024		Highest weekly average for period 1 January to 30 June 2024
A1	Difluoromethane (R32) Class A VOC [5]	100 g/hour	A period of stable operation	0.06 kg/hr	In-house method	15/01/2024 to 21/01/2024		Highest weekly average for period 1 January to 30 June 2024
A1	Trifluoroethylene (3FE) Class B VOC [5]	2 kg/hour	A period of stable operation	0.16 kg/hr	In-house method	15/01/2024 to 21/01/2024		Highest weekly average for period 1 January to 30 June 2024
		5 tonnes	Annually	0.028 tonnes	Calculation	01/01/2024 to 30/06/2024		Total tonnage emitted for period 1 January to 30 June 2024
A1	Pentafluoroethane (R125) Class A VOC [5]	100 g/hour	A period of stable operation	0.000 kg/hr	In-house method	01/01/2024 to 30/06/2024		Highest weekly average for period 1 January to 30 June 2024 (all results for the period 0.000 kg/hr)
A1	Chlorodifluoromethane (R22) Class A VOC [5]	100 g/hour	A period of stable operation	0.04 kg/hr	In-house method	03/06/2024 to 09/06/2023		Highest weekly average for period 1 January to 30 June 2024
A2	Tetrafluoroethylene (TFE) Class B VOC [5]	2 kg/hour	A period of stable operation	0.01 kg/hr	In-house method	12/02/2024 to 18/02/2024		Highest weekly average for period 1 January to 30 June 2024
		5 tonnes	Annually	0.006 tonnes	Calculation	01/01/2024 to 30/06/2024		Total tonnage emitted for period 1 January to 30 June 2024
A2	Hexafluoropropylene (HFP) Class B VOC [5]	2 kg/hour	A period of stable operation	0.0067 kg/hr	In-house method	26/02/2024 to 03/03/2024		Highest weekly average for period 1 January to 30 June 2024
		5 tonnes	Annually	0.002 tonnes	Calculation	01/01/2024 to 30/06/2024		Total tonnage emitted for period 1 January to 30 June 2024
A2	Chlorodifluoromethane (R22) Class A VOC [5]	800 g/hour	A period of stable operation	0.2787 kg/hr	In-house method	12/02/2024 to 18/02/2024		Highest weekly average for period 1 January to 30 June 2024

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Emission Point	Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method [2]	Result Date and Time [3]	Uncertainty [4]	Comments
A4	Hydrogen Fluoride (HF)	No limit set	Sample to be collected when lubricant oven is in operation	-	In-house method	-	-	No monitoring undertaken as oven has not been used since June 2023 with no further plans for use
		250 kg	Annually	-	Calculation	-	-	No monitoring undertaken as oven has not been used since June 2023 with no further plans for use
A5	SAA-1000 (EEA-NH4)	No limit set	A period of stable operation	0.337 mg/m ³	In-house method	20/06/2024	0.068 mg/m ³	EEA-NH4 monitoring was undertaken on 20 th June 2024,
A6	Tetrafluoroethylene (TFE) Class B VOC [5]	No limit set	A period of stable operation	0.155 tonnes	Calculation	01/01/2024 to 30/06/2024		From ETFE reactor purge record

- [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 Environment Agency 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.
- [5] Class A VOCs to be expressed as individual VOCs and Class B VOCs to be expressed as carbon.

Signed*: [REDACTED]

Date: 09/08/2024

(*authorised to sign as representative of AGC Chemicals Europe Limited)

Permit Number: EPR/BU5453IY
Operator: AGC Chemicals Europe Limited
Facility: AGC Chemicals Europe, Hillhouse

Form Number: Water 1 / 2017

Reporting of periodically monitored emissions to water (other than to sewer) for the period from ...January 2023... to ...June 2023...

Emission Point	Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method [2]	Sample Date and Times [3]	Uncertainty [4]	Comments
Monitoring requirements relevant to the effluent release from the thermal treatment plant scrubber (from Table S3.3 of the permit)								
W1	Cadmium (Cd) and Thallium (Tl) and their compounds expressed as cadmium/thallium	The limit is applicable to the effluent from the thermal treatment plant scrubber outlet, defined as W4 in Table S3.4 of the permit.[5]	Flow proportional sample	Cd: 0.0035 mg/l Tl: <0.003 mg/l	BS EN ISO 15586	Ca: March, June Th: February, March, April, May, June		Highest monthly result for period 1 January to 30 June 2024
W1	Arsenic (As), Lead (Pb), Chromium (Cr), Copper (Cu), Nickel (Ni) and Zinc (Zn) and their compounds		Flow proportional sample	As: 0.0407mg/l Pb: <0.005mg/l Cr: 0.0204 mg/l Cu: <0.007mg/l Ni: 0.024 mg/l Zn: 0.078 mg/l	BS EN ISO 15586	As: June Pb: February, March, April, May, June Cr: February Cu: February, March, April, May, June Ni: May Zn: June		Highest monthly result for period 1 January to 30 June 2024
W1	Dioxins and furans		Flow proportional sample	Total 2,3,7,8-Furans 0.00000 ng/l Total 2,3,7,8-Dioxins 0.00000 ng/l	BS ISO 18073	March and April monthly composite		Highest monthly result for period 1 January to 30 June 2024
Emission limits and monitoring requirements relevant to the effluent releases from the installation (from Table S3.3 of the permit)								
W1	Suspended Solids	150 mg/l ^[6]	Flow weighted composite sample	280.4 mg/l	In-house method	11/05/2024		Highest monthly result for period 1 January to 30 June 2024. Incident reported to Environment Agency on 13/05/2024
W1	Chemical Oxygen Demand	No limit set	Spot sample	1680 mg/l	In-house method based on BS ISO 15705:2002, BS 6068-2.80:2022	w/c 15/04/2024		Highest weekly spot sample result for period 1 January to 30 June 2024
W1	Fluoride (expressed as Fluorides)	No limit set	Flow weighted composite sample	9.5 mg/l	Ion chromatography	June		Highest monthly result for period 1 January to 30 June 2024
W1	Octylphenoethoxylate	No limit set	Flow weighted composite sample	N/A	In-house method	N/A		As agreed with the Environment Agency OPE monitoring from January 2024 is no longer required (see CAR BU5453IY/0490389)
W1	SAA-1000 (EEA-NH4)	No limit set	Flow weighted composite sample	2.28 mg/l	In-house method	April 2024		Highest monthly result for period 1 January to 30 June 2024.

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Emission Point	Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method [2]	Sample Date and Times [3]	Uncertainty [4]	Comments
								EEA-NH4 monitoring completed internally by AGCCE laboratory for period January – June 2024.
W1	Mercury (Hg)	0.05 mg/l [5]	Flow proportional sample	<0.0001 mg/l	BS EN ISO 17852	March, April, May, June 2024		Highest monthly result for period 1 January to 30 June 2024
		1 kg	Annually	0 Kg	Calculation	n/a		Total tonnage emitted for period 1 January to 30 June 2024 Product is produced using a non-mercury process with a product specification of Hg <0.001 mg/kg.
W1	pH minimum	5	Daily average	6.24	pH meter	30/05/2024		Lowest pH result from the daily effluent composite sample for period 1 January to 30 June 2024
W1	pH maximum	8.5	Daily average	7.65	pH meter	01/01/2024		Highest pH result from the daily effluent composite sample for period 1 January to 30 June 2024
W1	Temperature maximum	40°C	n/a	33.83°C	Temperature sensor	27/02/2024		Highest Temperature Reading for period 1 January to 30 June 2024
W1	Flow maximum	No limit set	Daily average	1665m³	MCERTs flow meter	22/05/2024		Highest Daily Total for period 1 January to 30 June 2024
Emission limits for effluent release from the Thermal Treatment Plant scrubber (W4) – discharging to the on-site effluent treatment plant (W1) (from Table S3.4 of the permit)								
W4	Total Suspended Solids	30 mg/l [7]	Flow weighted composite sample [9]	Unable to calculate. See IC4 report.	As set out in Table S3.3 of the permit [9] [10]	As measured and reported for W1 above.		
		45 mg/l [8]						
W4	Mercury and its compounds, expressed as mercury	0.03 mg/l	Flow proportional sample [9]	As measured and reported for W1 above. It is not possible to measure at W4	As set out in Table S3.3 of the permit [9]	As measured and reported for W1 above.		
W4	Cadmium and thallium and their compounds expressed as cadmium/thallium	0.05 mg/l	Flow proportional sample [9]		As set out in Table S3.3 of the permit [9]	As measured and reported for W1 above.		
W4	As and its compounds expressed as As	0.15 mg/l	Flow proportional sample [9]		As set out in Table S3.3 of the permit [9]	As measured and reported for W1 above.		
W4	Pb and its compounds expressed as Pb	0.20 mg/l	Flow proportional sample [9]		As set out in Table S3.3 of the permit [9]	As measured and reported for W1 above.		
W4	Cr and its compounds expressed as Cr	0.50 mg/l	Flow proportional sample [9]		As set out in Table S3.3 of the permit [9]	As measured and reported for W1 above.		

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Emission Point	Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method [2]	Sample Date and Times [3]	Uncertainty [4]	Comments
W4	Cu and its compounds expressed as Cu	0.50 mg/l	Flow proportional sample [9]		As set out in Table S3.3 of the permit [9]	As measured and reported for W1 above.		
W4	Ni and its compounds expressed as Ni	0.50 mg/l	Flow proportional sample [9]	As measured and reported for W1 above. It is not possible to measure at W4	As set out in Table S3.3 of the permit [9]	As measured and reported for W1 above.		
W4	Zn and its compounds expressed as Zn	1.50 mg/l	Flow proportional sample [9]		As set out in Table S3.3 of the permit [9]	As measured and reported for W1 above.		
W4	Dioxins and furans	0.30 ng/l	Flow proportional sample [9]		As set out in Table S3.3 of the permit [9]	As measured and reported for W1 above.		

- [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 Environment Agency 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.
- [5] The limit is applicable to the effluent from the thermal treatment plant scrubber outlet, defined as W4 in Table S3.4 of the permit.
- [6] A limit of 250 mg/l is effective during maintenance of the on-site effluent treatment processes. This limit can be applied for a maximum of 28 days during a year.
- [7] Compliance is achieved when 95% of the measurements do not exceed the limit.
- [8] Compliance is achieved when 100% of the measurements do not exceed the limit.
- [9] Monitoring carried out at W1 shall be used to determine compliance with the limits at W4.
- [10] Reporting will be against the W1 limit of 150mg/l

Signed*: [REDACTED]

Date: 27/08/2024

(*authorised to sign as representative of AGC Chemicals Europe Limited)