

Permit Number: BV42231E

Operator:

Huntsman Corporation UK Limited

Facility: Llanelli Plant

Form Number:

Air1

Reporting of emissions to air for the period from 1st July 2022 to 31st December 2022

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Uncertainty ^[4]
A1	Hydrogen chloride	20 mg/m ³	Minimum 1-hour period	0.35	BS EN 1911	18 November 2022 08:16 - 09:20	0.108
A1	Hydrogen fluoride	2 mg/m ³	Minimum 1-hour period	0.03	ISO 15713	17 November 2022 11:30 - 14:30	0.018
A1	Sulphur dioxide	100 mg/m ³	Minimum 1-hour period	1.74	BS EN 14791	17 November 2022 14:45 - 16:45	0.178
A1	Cadmium & thallium and their compounds (total)	0.05 mg/m ³	over minimum 30 minute, maximum 8 hour period	0.0005	BS EN 14385	21 November 2022 09:06 - 11:10	0.0007
A1	Mercury and its compounds	0.05 mg/m ³	over minimum 30 minute, maximum 8 hour period	0.0005	BS EN 13211	18 November 2022 09:26 - 10:30	0.0004
A1	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	0.5 mg/ m ³	over minimum 30 minute, maximum 8 hour period	0.064	BS EN 14385	21 November 2022 09:06 - 11:10	0.005
A1	Dioxins/furans (I-TEQ)	0.1ng/m ³	Over minimum 6 hour, maximum 8 hour period	0.0013	BS EN 1948 (1,2,3)	17 November 2022 11:16 - 17:20	0.0386
A1	Dioxin/furans (WHO-TEQ Humans/Mammals) ng/m ³	No limit set	Over minimum 6 hour, maximum 8 hour period	0.0011	BS EN 1948/TS(part 4)	17 November 2022 11:16 - 17:20	0.0349
A1	Dioxin/furans (WHO-TEQ Fish) ng/m ³	No limit set	Over minimum 6 hour, maximum 8 hour period	0.0014	BS EN 1948/TS(part 4)	17 November 2022 11:16 - 17:20	0.0384

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Uncertainty ^[4]
A1	Dioxin/furans (WHO-TEQ Birds)	No limit set	Over minimum 6 hour, maximum 8 hour period	0.0024	BS EN 1948/TS(part 4)	17 November 2022 11:16 - 17:20	0.0506
A1	Dioxin-like PCBs (WHO-TEQ Humans/Mammals) ng/m ³	No limit set	Over minimum 6 hour, maximum 8 hour period	0.0001	BS EN 1948/TS(part 4)	17 November 2022 11:16 - 17:20	0.0003
A1	Dioxin-like PCBs (WHO-TEQ Fish) ng/m ³	No limit set	Over minimum 6 hour, maximum 8 hour period	0.0011	BS EN 1948/TS(part 4)	17 November 2022 11:16 - 17:20	0.00001
A1	Dioxin-like PCBs (WHO-TEQ Birds) ng/m ³	No limit set	Over minimum 6 hour, maximum 8 hour period	0.0004	BS EN 1948/TS(part 4)	17 November 2022 11:16 - 17:20	0.0035
A1	Poly-cyclic aromatic hydrocarbons (PAHs) Total ug/m ³	No limit set	Over minimum 6 hour, maximum 8 hour period	0.35	BS ISO 11338-1 and BS-ISO 11338-2	21 November 2022 11:20 - 17:24	30.3%
A1	Anthracene ug/m ³	No limit set	Over minimum 6 hour, maximum 8 hour period	< 0.0012	BS ISO 11338-1 and BS-ISO 11338-2	21 November 2022 11:20 - 17:24	30.3%
A1	Benzo[a]anthracene ug/m ³	No limit set	Over minimum 6 hour, maximum 8 hour period	< 0.0012	BS ISO 11338-1 and BS-ISO 11338-2	21 November 2022 11:20 - 17:24	30.3%
A1	Benzo[b]fluoranthene ug/m ³	No limit set	Over minimum 6 hour, maximum 8 hour period	< 0.0012	BS ISO 11338-1 and BS-ISO 11338-2	21 November 2022 11:20 - 17:24	30.3%
A1	Benzo[k]fluoranthene ug/m ³	No limit set	Over minimum 6 hour, maximum 8 hour period	< 0.0012	BS ISO 11338-1 and BS-ISO 11338-2	21 November 2022 11:20 - 17:24	30.3%
A1	Benzo[b]naph [2,1-d]thiophene ug/m ³	No limit set	Over minimum 6 hour, maximum 8 hour period	< 0.0012	BS ISO 11338-1 and BS-ISO 11338-2	21 November 2022 11:20 - 17:24	30.3%

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A1	Benzo[c]phenanthrene ug/m ³	No limit set	Over minimum 6 hour, maximum 8 hour period	< 0.0012	BS ISO 11338-1 and BS-ISO 11338-2	21 November 2022 11:20 - 17:24	30.3%
A1	Benzo[ghi]perylene ug/m ³	No limit set	Over minimum 6 hour, maximum 8 hour period	< 0.0012	BS ISO 11338-1 and BS-ISO 11338-2	21 November 2022 11:20 - 17:24	30.3%
A1	Benzo[a]pyrene ug/m ³	No limit set	Over minimum 6 hour, maximum 8 hour period	< 0.0012	BS ISO 11338-1 and BS-ISO 11338-2	21 November 2022 11:20 - 17:24	30.3%
A1	Cholanthrene ug/m ³	No limit set	Over minimum 6 hour, maximum 8 hour period	< 0.0012	BS ISO 11338-1 and BS-ISO 11338-2	21 November 2022 11:20 - 17:24	30.3%
A1	Chrysene ug/m ³	No limit set	Over minimum 6 hour, maximum 8 hour period	0.00	BS ISO 11338-1 and BS-ISO 11338-2	21 November 2022 11:20 - 17:24	30.3%
A1	Cyclopenta[c,d]pyrene ug/m ³	No limit set	Over minimum 6 hour, maximum 8 hour period	< 0.0012	BS ISO 11338-1 and BS-ISO 11338-2	21 November 2022 11:20 - 17:24	30.3%
A1	Dibenzo[ah]anthracene ug/m ³	No limit set	Over minimum 6 hour, maximum 8 hour period	< 0.0012	BS ISO 11338-1 and BS-ISO 11338-2	21 November 2022 11:20 - 17:24	30.3%
A1	Dibenzo[ai]pyrene ug/m ³	No limit set	Over minimum 6 hour, maximum 8 hour period	< 0.0012	BS ISO 11338-1 and BS-ISO 11338-2	21 November 2022 11:20 - 17:24	30.3%
A1	Fluoranthene ug/m ³	No limit set	Over minimum 6 hour, maximum 8 hour period	0.04	BS ISO 11338-1 and BS-ISO 11338-2	21 November 2022 11:20 - 17:24	30.3%
A1	Indol[1,2,3-cd]pyrene ug/m ³	No limit set	Over minimum 6 hour, maximum 8 hour, maximum 8 hour, maximum 8 hour period	< 0.0012	BS ISO 11338-1 and BS-ISO 11338-2	21 November 2022 11:20 - 17:24	30.3%

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A1	Naphthalene ug/m3	No limit set	Over minimum 6 hour, maximum 8 hour period	0.29	BS ISO 11338-1 and BS-ISO 11338-2	21 November 2022 11:20 - 17:24	30.2
A2	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	400 mg/m ³	Minimum 1 hour period	143	BS EN 14792	17 November 2022 11:25 - 17:25	2.1
A2	Carbon monoxide	200 mg/m ³	Minimum 1 hour period	11	BS EN 15058	17 November 2022 11:25 - 17:25	1.7

- 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.

Signed  Date 04/01/23

Authorised to sign as representative of Huntsman Corporation UK Limited
representative of Huntsman Corporation UK Limited