

Part B Response

Part B Response to incident reported on: 01/04/2023

Any more accurate information on the matters for notification under Part A

Process gas release from Steam Pyrolysis 2 (SP2).

On 01/04/2023 from 08:00 – 10:00 the gasholder decreased by 71m³ (457m³ → 386m³). For most of this time, it would have been expected to remain constant with the input from steam pyrolysis so it can be assumed that this discrepancy is approximately the amount of process gas lost.

Process gas containing:

- Tetrafluoroethylene (TFE)
- Chlorodifluoromethane (R22)
- Hexafluoropropylene (HFP)
- Trifluoroethylene (3FE)
- Difluoromethane (R32)
- Vinylidene fluoride (VDF)

Estimate of substances released to air based on information available at the time of the process gas release and weekly total from permitted emission points Low Boiler Stack (LBS) (A1) and Waste Acid Stack (WAS) (A2) w/c 27/03/2023:

*TFE and 3FE Class B VOCs - expressed as carbon.

Substances released	Quantity (kg) from Process gas release	Quantity (kg) from permitted emission points A1 and A2
TFE*	46.41	0.1420 kg/hr weekly average, 23.9 kg LBS (as C) 0.0104 kg/hr weekly average, 1.7 kg WAS (as C)
R22	61.29	0.0501 kg/hr weekly average, 8.4 kg LBS 0.1816 kg/hr weekly average, 30.5 kg WAS
HFP	33.23	0.0015 kg/hr weekly average, 0.2 kg WAS
R32	0.08	0.0313 kg/hr weekly average, 5.3 kg LBS
3FE*	0.053	0.0054 kg/hr weekly average, 0.9 kg LBS
VDF	0.00	n/a

	The table below shows the context of release in terms of permit limits and emissions from w/c 27/03/2023. All emissions are below the permit limit total for w/c 27/03/2023. <table><tr><th>Substances released</th><th>Total emission w/c 27/03/2023 (kg)</th><th>Permit limit total for A1 and A2</th><th>% Emission compared to permit limit</th></tr><tr><td>TFE*</td><td>72.0</td><td>672</td><td>10.7%</td></tr><tr><td>R22</td><td>100.2</td><td>151.2</td><td>66.3%</td></tr><tr><td>HFP</td><td>33.5</td><td>336</td><td>10.0%</td></tr><tr><td>R32</td><td>5.3</td><td>16.8</td><td>31.8%</td></tr><tr><td>3FE*</td><td>1.0</td><td>336</td><td>0.3%</td></tr><tr><td>VDF</td><td>0.00</td><td>n/a</td><td>n/a</td></tr></table> Cause due to lowering of the level in SP2 cooling and/or caustic tower allowing gas to flow through the SP lute which opened path to atmosphere via the waste acid system.	Substances released	Total emission w/c 27/03/2023 (kg)	Permit limit total for A1 and A2	% Emission compared to permit limit	TFE*	72.0	672	10.7%	R22	100.2	151.2	66.3%	HFP	33.5	336	10.0%	R32	5.3	16.8	31.8%	3FE*	1.0	336	0.3%	VDF	0.00	n/a	n/a
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Measures taken, or intended to be taken to prevent a recurrence of the incident	Level control for cooling and caustic tower to be reviewed and improved. The caustic and cooling towers are connected to the waste acid system via lutes which mitigate gas breakthrough in normal operation. Improved level control of the caustic and cooling towers will reduce likelihood of gas break through. Operation of thermal oxidiser. The emission of process gas occurred via the waste acid system. In normal operation emissions from the waste acid system are treated by the thermal oxidiser which was offline for repairs at the time of the emission. Repairs on the thermal oxidiser are nearing completion with it planned to be brought back online and connected to WAS and LBS waste streams in Q3 2023.																												
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	n/a																												
The dates of any unauthorised emissions from the installation in the preceding 24 months	30/06/2022: Breach of suspended solids limit 16/12/2022 Breach of R22 & R125 - Weekly Average at the Low Boiler Stack (CAR: BU5453IY/0451901) 22/12/2022: Breach of R22 - Weekly Average at the Waste Acid Stack (CAR: BU5453IY/0451578) 06/01/2023: Breach of annual CO limit (Part B due investigation ongoing)																												

	22/02/2023: Missed 24-hour effluent sample on 17/02/2023 from W1 Discharge to River Wyre 01/04/2023: Process gas release from SP2 29/05/2023: Breach of suspended solids limit (CAR: EA confirmed n/a) 06/06/2023: Breach of suspended solids limit
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Name*	
Post	
Signature	
Date	07/07/2023

*authorised to sign on behalf of AGC Chemicals Europe