Schedule 1 - Notification of abnormal emissions.

This page outlines the information that the Operator must provide to satisfy conditions 5.1.1 and 5.1.2 of this Permit.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the PPC Regulations.

Part A

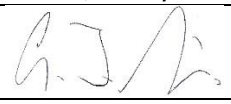
Permit Number	EPR/UP3831ES
Name of Operator	TS Resins Ltd
Location of Installation	Alyn Works, Denbigh Rd, Mold
Location of the emission	Point A18
Time and date of the emission	21st April 2021

Substance(s) emitted	Media	Best estimate of the quantity or the rate of emission	Time during which the emission took place
Formaldehyde	Air	$3.9mgm^{-3}$	April 2021

Measures taken, or intended to be taken, to stop the emission	Scrubber A504 flushed cleaned and refilled with caustic water solution. Carbon monoxide detector on outlet recalibrated. Data from carbon monoxide detector checked – no abnormal readings. Data from pressure drop across catalyst pack checked – no abnormal readings.

Part B

Any more accurate information on the matters for notification under Part A.	Carbon monoxide result lower than 2020 result. Phenol below detectable limits. Methanol less than 50% of emission limit value (ELV).
Measures taken, or intended to be taken, to prevent a recurrence of the incident	In contact with MCerts accredited company that carried out the annual testing to determine whether a retest for formaldehyde is required.
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment or harm which has been or may be caused by the emission	Scrubber A504 pretreats the waste stream prior to combustion in a low temperature catalytic oxidiser. Scrubber was inspected (flow and pressure within normal parameters). Scrubber cleaned and a caustic solution introduced.
The dates of any unauthorised emissions from the installation in the preceding 24 months.	None.

Name*	Gregory John Hickman
Post	Health, Safety & Environment Officer
Signature	
Date	04/06/2021

* authorised to sign on behalf of TS Resins Ltd

During routine annual testing for permit compliance by an MCerts accredited company, the reading for formaldehyde was found to exceed the ELV. The reading obtained was 3.9mgm^{-3} compared to an ELV of 2mgm^{-3}. The LVOC BREF (specified as the BREF to follow for TS Resins Ltd) suggests an ELV range of 2 – 5mgm^{-3} for formaldehyde – the breach is within this range (Table 13.2 of the LVOC BREF).

This would give an annual mass emission rate of 19.6kg (based on the measured flowrate of 575Nm3h^{-1}) compared to a licence limit of 16.1kg (based on a licence flowrate of 920NM^{3}h^{-1}). This equates to a mass emission of 2.2gh^{-1}. We believe this to be an insignificant release based on the rapid degradation of formaldehyde in the natural environment and the fact that formaldehyde is produced naturally.

The report was received on the 3rd June (the company has apologised for the delay in producing the report – problems with staff availability to review and approve the report due to Covid-19 risk control measures).

The following has been carried out:

1. The scrubber A504 (which pretreats the gas stream prior to treatment by the catalytic oxidiser) has been flushed, cleaned and inspected (packing is in good condition). Flowrate is within normal parameters as is the pressure. There is an interlock on the scrubber that prevents plant operation if the counterflow flowrate is too low. The scrubber has been refilled with a caustic solution as this improves the scrubbing of the acidic formaldehyde.
2. The catalytic oxidiser has a carbon monoxide detector (incomplete combustion is detected by an increase in CO). We have not seen an increase in CO and the figure measured by the MCerts company is lower than last year. High CO interlocks out the catalytic oxidiser preventing plant operation. The CO detector has been recalibrated as part of routine service/calibration of the flammable gas detection system (carried out six monthly).
3. The pressure drop across the catalyst pack has not increased (indicates blinding of the catalyst and reduced efficiency), indicating normal operation. High differential pressure interlocks out the catalytic oxidiser preventing plant operation.
4. The Plant Engineer monitors the catalytic oxidiser operation and arranges for catalyst pack replacement – we are not due a replacement, but this is under discussion.
5. We are investigating a repeat of the test for formaldehyde by the MCerts company. We have the capability to carry out the testing in-house (not MCerts accredited) and are discussing this with the Technical Manager at Synthite.