



SYNTHITE LIMITED

ALYN WORKS, DENBIGH ROAD, MOLD,
FLINTSHIRE, UNITED KINGDOM CH7 1BT

A Member of the Tennant Group (Est. 1797)

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Ms S McGregor-Andrew
Natural Resources Wales
Chester Road
Buckley
Flintshire
CH7 3AJ

Greg Hickman, Health, Safety and Environment Officer
Tel: 01352 707623
Email: greg@synthite.co.uk

Your Ref: EPR/BU2349
Our ref: Schedule 1 notification 2018 07 24
Date: 24th July 2018

Dear Ms McGregor-Andrew,

I enclose a Schedule 1 notification for an emissions limit breach over April 2018. During this time, there was a release of formaldehyde from a distillation column. This release was local to the site and passed to a drainage trench which passed to the site culvert. This was detected during routine sampling and analysis of the culvert.

Normal site operations are to transfer the culvert liquors (under automatic level control) to the lagoons for treatment in the effluent treatment plant, then transfer to the Welsh Water sewerage works. This occurred and the contaminated liquors have been treated prior to discharge.

Sampling and testing of the boreholes downstream of the culvert (MW-C1 opposite the phenol offloading point and BH-9 off-site) have not detected any formaldehyde (both were below detectable limits).

The testing regime for the culvert has been changed with the limits for ammonia and formaldehyde being reduced and a procedure put in place in the event of the limits being exceeded.

We believe there has been no risk to the environment and the changes made to the management of the culvert have further reduced any potential for a release to the environment.

Yours sincerely,

Greg Hickman
HSE Officer
Synthite Ltd



For Formaldehyde,
Paraformaldehyde,
ALCOFORM Solution
Agricultural Products &
Chemical Toll Manufacture



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	BU2349
Name of Operator	Synthite Ltd
Location of Installation	Alyn Works, Mold, Flintshire
Location of the emission	Emission contained on site
Time and date of the emission	April 2018

Substance(s) emitted	Media	Best estimate of the quantity or the rate of emission	Time during which the emission took place
Formaldehyde	Culvert	8000mg l ⁻¹ (worst)	April 2018

Measures taken, or intended to be taken, to stop the emission.	Culvert discharged to lagoons for treatment as per normal operation. Reboiler isolated for repair.
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Part B

Any more accurate information on the matters for notification under Part A.	Increased levels of formaldehyde in the culvert. Root cause was a failure of a gasket on the reboiler on a still which led to a slow release of formalin solution. This passed to the culvert which passes near to the Silver plant. This was detected during routine site monitoring. Gasket failure cannot be easily predicted (the HSE FRED database indicates a failure rate of 5×10^{-6} per year per joint for a segment of gasket). New gaskets are fitted whenever a joint is disturbed. Skilled time-served staff are used to carry out site maintenance.
Measures taken, or intended to be taken, to prevent a recurrence of the incident.	Still taken off-line. Still stripped to have all gaskets replaced (sectional column). Pipework to be removed from a local trench and the trench will be backfilled with concrete to prevent seepage into the trench and subsequent entry into the culvert. Culvert liquor transferred to site drainage and the effluent treatment plant (ETP) system as per normal operations for treatment and discharge to the Mold domestic sewerage system. The trigger limits for ammonia and formaldehyde for the culvert will be reduced to 5mgm^{-3} and 50mgm^{-3} respectively. If either limit is exceeded, the site will move to daily sampling and analysis of the exceeded species. In conjunction, MW-C1 borehole will be sampled one week later and tested for the exceeded species. If the species is detected, sampling will continue every week. In conjunction, there will be an investigation into the discharge to determine the source and take remedial action.
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.	The culvert originally transferred water from a man-made pond at the top of the site to the river and was used as a source of energy. The lower end has been capped with clay and concrete at the site boundary fence and it has been capped at the upper end of the site (upstream of the Silver Plant). There are two access manholes either side of the Silver plant. There is a sump and automatic pumping station in the cooling tower park. The culvert is sampled at the pumping station sump.

	The culvert is regularly sampled as part of the site water management programme. SPMP monitoring of boreholes has not detected increased formaldehyde, confirming that liquors in the culvert are not entering the groundwater. Emptying the culvert under automatic level control is a site de-watering operation. If the culvert is not routinely emptied, it will back-flood onto the site roadways (where it is captured and passed to the drainage/ETP system). The site boundary is encompassed by tertiary containment, consisting of a wall that passes below ground to the clay layer (below the river bed). Any potential release into groundwater would be collected on site and transferred to the ETP. The site is predominantly concreted with contained drains. Borehole MW-C1 is sited downstream of the culvert and borehole BH-9 is located off-site between the site and the river. These will detect any increase in ammonia or formaldehyde. Reboiler/still is routinely inspected under the ageing plant programme. Shift staff and engineering staff carry out 'look, listen, feel' tours to detect problems with plant and equipment.
The dates of any unauthorised emissions from the installation in the preceding 24 months.	Increased BOD on W1 discharge January 2018. NRW determined that this was not a breach of the licence. Increased solids and COD on discharge to sewer (S1) November 2017. Discharge was within Welsh Water limits but exceeded the EPR limit. Request made to standardise limit at the Welsh Water level as this is the level they specify for treatment at their sewerage plant.

Name*	Greg Hickman
Post	HSE Officer
Signature	
Date	24/07/2018

- Authorise to sign on behalf of Synthite Ltd.