



Permit with introductory note

Pollution Prevention and Control Regulations 2000

**Mold Chemicals (Alyn Works)
Synthite Limited
Denbigh Road
Mold
Flintshire
CH7 1BT**

Permit number

BU2349

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Introductory note

This introductory note does not form a part of the Permit

The following Permit is issued under Regulation 10 of the Pollution Prevention and Control (England and Wales) Regulations 2000 (S.I.2000 No.1973), as amended, ("the PPC Regulations") to operate part of an installation carrying out activities covered by the description in Sections 4.1 A(1)(a)(ii), (iv), (viii) and Section 4.2(A)(1)(a)(iv) in Part 1 to Schedule 1 of the PPC Regulations, to the extent authorised by the Permit:

Section 4.1 A(1)(a)(ii) - "Producing organic chemicals such as – organic compounds containing oxygen, such as alcohols, aldehydes, ketones, carboxylic acids, esters, ethers, peroxides, phenols, epoxy resins."

Section 4.1(A)(1)(a)(iv) - "Producing organic chemicals such as - organic compounds containing nitrogen, such as amines, amides, nitrous -, nitro – or azo – compounds, nitrates, nitriles, nitrogen heterocyclic, cyanates, isocyanates, di – isocyanates and di – isocyanate prepolymer."

Section 4.1(A)(1)(a)(viii) - "Producing organic chemicals such as – plastic materials such as polymers, synthetic fibres and cellulose based fibres."

Section 4.2(A)(1)(a)(iv) - "Producing inorganic chemicals such as – salts, such as ammonium chloride, potassium chlorate, potassium carbonate, sodium carbonate, perborate, silver nitrate, cupric acetate, ammonium phosphomolybdate."

Aspects of the operation of the installation which are not regulated by conditions of the Permit are subject to the condition implied by Regulation 12(10) of the PPC Regulations, i.e. the Operator shall use the best available techniques for preventing or, where that is not practicable, reducing emissions from the installation.

Techniques include both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned.

In some sections of the Permit conditions require the Operator to use Best Available Techniques (BAT), in each of the aspects of the management of the installation, to prevent and where that is not practicable to reduce emissions. The conditions do not explain what is BAT. In determining BAT, the Operator should pay particular attention to relevant sections of the IPPC Sector guidance, appropriate Horizontal guidance (H1 to H4) and other relevant guidance.

A non-technical description of the installation is given in the Application, but the main features of the installation are as follows.

The installation Mold Chemicals (Alyn Works) comprises Synthite Limited as the major component and original site operator since 1950, and making up the integrated stationary technical unit is Dynea (UK) Limited which has operated on the site since 1995. The site is located near Rhyd-y-goleu to the north west of Mold, Flintshire and has been industrial for over 200 years through cotton milling then tinplating prior to chemical manufacture. The site is roughly triangular in shape and bounded to the south and west by the A541 Denbigh Road; to the north by the River Alyn (which ultimately flows into the River Dee) and to the east a recreational area developed by Flintshire County Council. The site is approximately 4 hectares.

Synthite primarily manufactures formaldehyde from methanol via separate silver catalyst and mixed iron and molybdenum oxide (mixed oxide) processes. The silver catalyst process is one of oxidation/dehydrogenation of a rich methanol/air mixture to produce formaldehyde, hydrogen, carbon monoxide and water. The reaction products are quenched and exit gases scrubbed to leave hydrogen and carbon monoxide gas, which is burned in a gas boiler. The silver process is capable of producing a strong formaldehyde solution of up to 82% for paraformaldehyde powder/prill production in addition to the standard formalin product of 50-55%. The mixed oxide process oxidises a lean methanol/air mixture to produce a solution of up to 57% formaldehyde and water. Heat is recovered via a heat transfer fluid and condenser to generate steam for on site use. The exit gas stream containing low levels of formaldehyde, methanol, dimethyl ether and carbon monoxide are oxidised in a Noble metal catalyst emission control system to carbon dioxide and water.

Synthite also produces formaldehyde derivatives such as triazines, hemiacetals, formals, resole acetate, chemical blends such as urea in water and paraformaldehyde in butanol and polymer emulsions as well as ammonium salts of organic acids. The most environmentally significant chemicals stored are formaldehyde, methanol, ammonia, acrylic acid and the mixed oxide process heat transfer fluid (70% biphenyl ether and 30% biphenyl).

There are 18 point source emission points of which 14 are abated. Those not abated are the exit gas boiler stack, the three gas fired boilers' stack and the methanol storage tanks (2). A combination of abatement technologies are being employed the selection of which is dependent on the chemical and physical nature of the emission and include catalytic oxidation, combustion, wet scrubbing, filtration and adsorption.

Synthite discharges trade effluent from a secondary effluent treatment plant to Welsh Water Mold Wastewater Treatment Works which discharges into a tributary of the River Alyn. Synthite abstracts water from two boreholes in order to provide site flood protection and cooling water. Used cooling water is sent for effluent treatment, the unused/untreated water is sent directly to the River Alyn (70000 tonnes per annum for each). In addition, surface water runoff from adjacent fields and Denbigh Road is collected in Parry's Ditch and pumped into the same River Alyn discharge line. Running approximately west to east at a depth of 4 – 5 metres (similar level to River Alyn) is an underground culvert, a relic of historical site activities. The culvert has been capped at both ends within the site and acts as a general site drain for surface water soakaway and may still receive old drains. Ingress by groundwater is reduced by the borehole regime. The culvert is stone lined except along its base and is pumped out via lagoons to the effluent treatment plant to prevent site flooding (35000 tonnes per annum). Groundwater sensitivity is assessed as moderate due to the presence of two minor aquifers beneath the site. There are no direct or indirect emissions from the installation to groundwater of List I or II substances either directly or indirectly, as set out in the Groundwater Regulations 1998. There are significant areas of unmade ground on the site particularly along the River Alyn boundary and the potential for soakaway contamination to groundwater/River Alyn exists. A concrete barrier wall 2 – 3 metre deep constructed in 1993/4, between the site and the River Alyn on the northern boundary is considered to offer improved protection as has been the improvements in bunding and increased hardstanding particularly in the Agricultural Products Yard.

A Climate Change Agreement has been held with the Chemical Industry Association since August 2001. Under normal operating conditions three of the four boilers on site are on hot standby (natural gas fuelled), with the fourth burning the silver catalyst process exit gas containing hydrogen. The mixed oxide process is also a next exporter of steam. The total annual water usage is approximately 210000 tonnes. Process wastes are segregated into liquid and solid waste streams and stored in two bunded waste compounds.

Dynea primarily manufactures urea, melamine and phenol formaldehyde resins and operates separately under PPC permit BU2322. Dynea is however, supplied with raw material formaldehyde, steam and provision for surface water management and weak effluent treatment by Synthite.

Under the Control of Major Accident Hazards Regulations 1999 (COMAH) Synthite is classified as a Higher Tier and Dynea a Lower Tier site and collectively as a Domino site.

Note that the Permit requires the submission of certain information to the Agency (see Sections 4 and 5). In addition, the Agency has the power to seek further information at any time under regulation 28 to the PPC Regulations provided that it acts reasonably.

Other PPC Permits relating to this installation

Permit holder	Permit Number	Date of Issue
Dynea (UK) Limited	BU2322	5/10/04

Superseded Licences/Authorisations/Consents relating to this installation

Holder	Reference Number	Date of Issue
Synthite Limited	AG5641	01/05/93
Synthite Limited	AK9054	25/02/94
Synthite Limited	AK8848	02/03/94
Synthite Limited	BI2036	27/10/00

Other activities may take place on the site of this installation which are not regulated under this Permit or any other PPC Permit referred to in the Table above.

Public Registers

Considerable information relating to Permits including the Application is available on public registers in accordance with the requirements of the PPC Regulations. Certain information may be withheld from public registers where it is commercially confidential or contrary to national security.

Variations to the Permit

This Permit may be varied in the future (by the Agency serving a Variation Notice on the Operator). If the Operator itself wants any of the Conditions of the Permit to be changed, it must submit a formal Application. The Status Log within the Introductory Note to any such Variation Notice will include summary details of this Permit, variations issued up to that point in time and state whether a consolidated version of the Permit has been issued.

Surrender of the Permit

Before this Permit can be wholly or partially surrendered, an Application to surrender the Permit has to be made by the Operator. For the application to be successful, the Operator must be able to demonstrate to the Agency that there is no pollution risk and that no further steps are required to return the site to a satisfactory state.

Transfer of the Permit or part of the Permit

Before the Permit can be wholly or partially transferred to another person, an Application to transfer the Permit has to be made jointly by the existing and proposed holders. A transfer will be allowed unless the Agency considers that the proposed holder will not be the person who will have control over the operation of the installation or will not comply with the conditions of the transferred Permit. If, however, the Permit authorises the carrying out of a specified waste management activity, the transfer will only be allowed if the proposed holder is also considered to be "a fit and proper person" as required by the PPC Regulations.

Talking to us

Please quote the Permit Number if you contact the Agency about this Permit.

To give a Notification under Condition 5.1.1, the Operator should use the Incident Hotline telephone number (0800 80 70 60) or any other number notified in writing to the Operator by the Agency for that purpose.

Status Log

Detail	Date	Comment
Application BU2349	Dated 03/08/03 Received 29/08/03	
Not Duly Made	Dated 12/09/03	Agreement sought over EPOPRA v.1 profile
Duly Made	Dated 03/10/03	
Response to Schedule 4 Notice for Information	Request dated 01/06/04	Response dated 22/06/04 Received 24/06/04
Response to request for information	Request dated 02/08/04	Response dated 05/08/04 Received 06/08/04
Additional information submitted in support of the Application	Dated 01/09/04	
Request to extend determination	Request dated 22/12/03	Request accepted 06/01/04 Received 08/01/04
Request to extend determination	Request dated 29/07/04	Request accepted 04/08/04
Permit determined	5/10/04	

End of Introductory Note.

Permit

Pollution Prevention and Control
Regulations 2000



**ENVIRONMENT
AGENCY**

Permit

Permit number

BU2349

The Environment Agency (the Agency) in exercise of its powers under Regulation 10 of the Pollution Prevention and Control (England and Wales) Regulations (SI 2000 No 1973), hereby authorises

Synthite Limited ("the Operator"),

Of/ whose Registered Office (or principal place of business) is

Alyn Works

Denbigh Road

Mold

Flintshire

CH7 1BT

Company registration number 164640

to operate part of an Installation(s) at

Mold Chemicals (Alyn Works)

Denbigh Road

Mold

Flintshire

CH7 1BT

to the extent authorised by and subject to the conditions of this Permit.

Signed	Date

S. McFarlane

Authorised to sign on behalf of the Agency

Conditions

1 General

1.1 Permitted Activities

1.1.1 The Operator is authorised to carry out the activities and the associated activities specified in Table 1.1.1.

Table 1.1.1

Activity listed in Schedule 1 of the PPC Regulations / Associated Activity	Description of specified activity	Limits of specified activity
Section 4.1A(1)(a)(ii) Production of organic compounds containing oxygen	Production of formaldehyde and paraformaldehyde as described in the application	From receipt of raw materials to despatch of finished product.
Section 4.1A(1)(a)(ii) Production of organic compounds containing oxygen	Production of formaldehyde derivatives	From receipt of raw materials to despatch of finished product, subject to meeting the requirements of the MPP
Section 4.1(A)(1)(a)(iv) Production of organic compounds containing nitrogen	Production of formaldehyde derivatives	From receipt of raw materials to despatch of finished product, subject to meeting the requirements of the MPP
Section 4.1(A)(1)(a)(viii) Production of organic polymers	Production of formaldehyde derivatives	From receipt of raw materials to despatch of finished product, subject to meeting the requirements of the MPP
Section 4.2(A)(1)(a)(iv) Production of inorganic ammonium salts	Production of formaldehyde derivatives	From receipt of raw materials to despatch of finished product, subject to meeting the requirements of the MPP
Associated activities	Steam raising plant <20MW	Operation of three natural gas standby boilers
Associated activities	Steam raising plant <20MW	Operation of one silver catalyst process exit gas and foul gas boiler
Associated activities	Effluent treatment system	Treatment of liquid effluent including that from Dynea (UK) Limited and discharge to sewer
Associated activities	Maintenance and engineering workshop	From receipt of raw materials to despatch of finished product
Associated activities	Quality control laboratories	From receipt of raw materials to despatch of finished product
Associated activities	Packed product storage	From receipt of raw materials to despatch of finished product
Associated activities	Water abstraction and use	Abstraction from Boreholes A & B for use as cooling water and for the prevention of site flooding

- 1.1.2 Where waste on site is subjected to activities that are exempt from control under the Waste Management Licensing Regulations 1994 then the wastes controlled under condition 1.1.1, above, shall be clearly identified and kept separate from such exempt waste activities and a record shall be kept of where such exempt activities are conducted.

1.2 Site

- 1.2.1 The Installation is the area shown in red on the IPPC Permit Areas drawing (Drawing MAP 3 Extract - Mold Chemicals (Alyn Works)) at Schedule 5 to this Permit and is within the area edged in dark blue which represents the extent of the site. The extent of the Installation covered by this Permit and the extent of the Installation covered by the Permit of the other operator is identified on the drawing (Dynea (UK) Limited is identified by black hatching with Synthite Limited making up the remainder of the Installation). The activities authorised under condition 1.1.1 shall not extend beyond the areas indicated on the drawing, with the exception of groundwater abstraction by Synthite from Borehole B (identified in red).

1.3 Overarching Management Condition

- 1.3.1 Without prejudice to the other conditions of this Permit, the Operator shall implement and maintain a management system, organisational structure and allocate resources that are sufficient to achieve compliance with the limits and conditions of this Permit.

1.4 Improvement Programme

- 1.4.1 The Operator shall complete the improvements specified in Table 1.4.1 by the date specified in that table, and shall send written notification of the date of completion of each requirement to the Agency within 14 days of the completion of each such requirement.

Table 1.4.1: Improvement programme

Reference	Requirement	Due date
1	The operator shall review the performance of the ETP including an investigation into the potential for effluent to bypass to sewer and the balancing of weak and strong liquors. The operator shall submit a report of the findings to the Agency.	31/03/05
2	The operator shall re-designate the air emission points A1-A18 as per Table 2.2.1, and discharge to sewer as S1 and to surface water as W1. The operator shall submit to the Agency an updated site diagram identifying all 20 points.	31/03/05
3	The operator shall undertake a study of the feasibility of abating the methanol storage tanks at points A13 and A14 (formerly FA8 and FA9). The operator shall submit a report of the findings to the Agency.	30/06/05
4	The operator shall implement a programme of work to establish an EMS having regard to BS EN ISO14001:1996. The operator shall report to the Agency.	30/06/05
5	The operator shall review the provision of MCERTS accreditation for the monitoring equipment, personnel and organisations employed for the emissions monitoring programme in condition 2.10.1 and propose a timetable for achieving this standard for any elements that are not MCERTS certified.	30/06/05
6	The operator shall establish environmental competency and awareness training, to run in parallel with the development of a certified EMS. The operator shall submit a report to the Agency.	30/06/05
7	The operator shall develop a series of environmental key performance indicators. These parameters will require the agreement of the Agency whereupon revised Schedules 3 & 4 will be issued.	30/06/05
8	The operator shall review the provision for 'identifying the hazards', 'assessing the risks' and 'identifying the techniques necessary to reduce the risks' for all activities, which impact on the environment. The operator shall submit a report of the findings to the Agency.	30/06/05
9	The operator shall undertake a review of the integrity of subsurface storage tanks and associated pipework and recommend improvements where necessary. The operator shall submit a report of the findings to the Agency.	30/09/05
10	The operator shall undertake formaldehyde emissions modelling to a 'new generation model' standard. The operator shall submit a report of the findings to the Agency for verification.	30/09/05
11	The operator shall review all hazardous material handling procedures and storage areas. The operator shall submit a report of the findings to the Agency.	30/09/05
12	The operator shall develop a documented waste segregation, storage, handling and disposal system. The operator shall submit a report to the Agency.	30/09/05
13	The operator shall review and recommend improvements to the integrity and use of the site culvert, in order to reduce potential fugitive emissions. The operator shall submit a report of the findings to the Agency.	30/09/05
14	The operator shall undertake a review and recommend improvements to all of the site surfacing and bunding arrangements. To include spill containment, 'old' lagoon integrity, containment of surface water and soakaways. The operator shall submit a report of the findings to the Agency.	31/12/05
15	The operator shall undertake a review of the connection to sealed drainage of process plant, equipment and associated areas and establish a timetable for the improvement or replacement of drainage. The operator shall submit a report of the findings to the Agency.	31/12/05
16	The operator shall undertake a review of all on/off loading activities and recommend improvements in order to identify further reductions in fugitive VOC emissions. The operator shall submit a report of the findings to the Agency.	31/03/06
17	The operator shall undertake a site noise survey to standard BS4142. The operator shall submit a report of the findings to the Agency.	31/03/06
18	The operator shall submit a programme and timetable to the Agency for the decommissioning of equipment identified in section 2.11 of the Application as the redundant Total Oxidation Formaldehyde Plant and Agricultural Products storage tanks and any associated equipment.	31/03/06
19	The operator shall re-route the tanker loading emissions of formalin from point A15 (formerly FA12) through to the Exit Gas Boiler. The operator shall submit a report to the Agency.	31/03/06
20	The operator shall develop a programme and timetable for the introduction of continuous monitoring of VOC emissions to air for the Silver and Mixed Oxide formaldehyde plants (at stack emission points A16 and A18). The operator shall submit a report of the findings to the Agency.	30/06/06
21	The operator shall attain a third party certified EMS having regard to BS EN ISO14001:1996.	31/12/06

- 1.4.2 Where the Operator fails to comply with any requirement by the date specified in Table 1.4.1 the Operator shall send written notification of such failure to the Agency within 14 days of such date.

1.5 Minor Operational Changes

- 1.5.1 The Operator shall seek the Agency's written agreement to any minor operational changes under condition 2.1.1 of this Permit by sending to the Agency: written notice of the details of the proposed change including an assessment of its possible effects (including waste production) on risks to the environment from the Permitted Installation; any relevant supporting assessments and drawings; and the proposed implementation date.
- 1.5.2 Any such change shall not be implemented until agreed in writing by the Agency. As from the agreed implementation date, the Operator shall operate the Permitted Installation in accordance with that change, and relevant provisions in the Application shall be deemed to be amended.
- 1.5.3 When the qualification "unless otherwise agreed in writing" is used elsewhere in this Permit, the Operator shall seek such agreement by sending to the Agency written notice of the details of the proposed method(s) or techniques.
- 1.5.4 Any such method(s) or techniques shall not be implemented until agreed in writing by the Agency. As from the agreed implementation date, the Operator shall operate the Permitted Installation using that method or technique, and relevant provisions in the Application and the Site Protection and Monitoring Programme, as the case may be shall be deemed to be amended.

1.6 Pre-Operational Conditions

- 1.6.1 There are no pre-operational conditions

1.7 Off-site Conditions

- 1.7.1 Off-site monitoring conditions are included in condition 2.10.2 and described in Table 2.10.1

2 Operating conditions

2.1 In-Process Controls

- 2.1.1 The Permitted Installation shall, subject to the conditions of this Permit, be operated using the techniques and in the manner described in the documentation specified in Table 2.1.1, or as otherwise agreed in writing by the Agency in accordance with conditions 1.5.1 and 1.5.2 of this Permit.

Table 2.1.1: Operating techniques

Description	Parts	Date Received
Application	The response to questions 2.1 and 2.2 and multi – product protocol given in pages 8 – 55 and appendices of the application	29/08/03
Schedule 4 Notice	The response to questions 2 and 3	24/06/04
Additional information		01/09/04

- 2.1.2 The Permitted Installation shall, subject to the other conditions of this Permit, be operated using the techniques and in the manner described in the Site Protection and Monitoring Programme submitted under condition 4.1.7 of this Permit (as amended from time to time under condition 4.1.8), or as otherwise agreed in writing by the Agency.

2.2 Emissions

2.2.1 Emissions to Air, (including heat, but excluding Odour, Noise or Vibration) from Specified Points

- 2.2.1.1 This Part 2.2.1 of this Permit shall not apply to releases of odour, noise or vibration.
- 2.2.1.2 Emissions to air from the emission points in Table 2.2.1 shall only arise from the source(s) specified in that Table.

Table 2.2.1 : Emission points to air

Emission point reference or description	Source (Abatement)	Location of emission point (1)
A1 (Formerly A1)	Formaldehyde Derivatives Storage (Wet scrubber)	Ammonium Salt Bund (SJ 2338 6498)
A2 (Formerly AA1)	Storage of Ammonia Solution (wet scrubber)	Agricultural Products Area (SJ 2315 6500)
A3 (Formerly AA2)	Propionic Acid Storage (Adsorption)	Agricultural Products Area (SJ 2311 6501)
A4 (Formerly AA4)	Formic Acid Storage (Adsorption)	Agricultural Products Area (SJ 2312 6501)
A5 (Formerly AA12)	Agricultural Product Storage (Adsorption)	Agricultural Products Area (SJ 2311 6501)
A6 (Formerly AA13)	Agricultural Product Storage (Adsorption)	Agricultural Products Area (SJ 2311 6501)
A7 (Formerly CA1)	Ammonium Salts, Emulsions and Formaldehyde Derivatives Scrubber Vent (wet scrubber / Adsorption)	Ammonium Salts, Emulsions and Formaldehyde Derivatives (SJ 2337 6487)
A8 (Formerly CA2)	Formaldehyde Derivatives Scrubber Vent (Wet scrubber)	Formaldehyde Derivatives (SJ 2336 6488)
A9 (Formerly CA3)	Formaldehyde Derivatives Storage Tank Vent (Adsorption)	Formaldehyde Derivatives (SJ 2338 6487)
A10 (Formerly FA2)	Fine Powder Manufacture (Fabric Filters)	Grinder House (SJ 2321 6500)
A11 (Formerly FA3)	Fine Powder Manufacture (Wet scrubber)	Grinder House (SJ 2322 6499)
A12 (Formerly FA5)	Paraformaldehyde Production (Fabric Filters)	Formaldehyde Plant (SJ 2323 6494)
A13 (Formerly FA8)	Methanol Storage (No abatement)	Formaldehyde Plant (SJ 2332 6494)
A14 (Formerly FA9)	Methanol Storage (No abatement)	Formaldehyde Plant (SJ 2333 6494)
A15 (Formerly FA12)	Tanker Loading of Formalin (Wet scrubber)	Formaldehyde Plant (SJ 2336 6491)
A16 (Formerly FA15)	Combustion of Silver Process Exit Gas (Hydrogen etc) (No abatement)	Boiler House (SJ 2318 6497)
A17 (Formerly FA16)	Natural Gas Fired Boilers (x3) (No abatement)	Boiler House (SJ 2319 6496)
A18 (Formerly FA24)	Mixed Oxide Plant Emission Control System Vent (Catalytic oxidation)	Formaldehyde Plant (SJ 2321 6497)

Note 1: Refer to Application 'Synthite – MAP 5 EMISSION POINTS June 2003'.

2.2.1.3 The limits for emissions to air for the parameter(s) and emission point(s) set out in Table 2.2.2 shall not be exceeded.

Table 2.2.2 : Emission limits to air and monitoring

Emission point reference	Parameter	Limit (including Reference Period) ¹	Monitoring frequency	Monitoring method
A1 (A1)	Dimethylamine	5 mg/m ³	Quarterly	Gastec Tube
A2 (AA1)	Ammonia	10 mg/m ³	Quarterly	Gastec Tube
A3 (AA2)	Propionic Acid (Measured as VOC Toluene)	10 mg/m ³	Quarterly	VOC Meter
A4 (AA4)	Formic Acid (Measured as VOC Toluene)	10 mg/m ³	Quarterly	VOC Meter
A5 (AA12)	Ammonia	10 mg/m ³	Quarterly	Gastec Tube
A5 (AA12)	Formic & Propionic Acid (Measured as VOC Toluene)	10 mg/m ³	Quarterly	VOC Meter
A6 (AA13)	Ammonia	10 mg/m ³	Quarterly	Gastec Tube
A6 (AA13)	Formic Acid (Measured as VOC Toluene)	10 mg/m ³	Quarterly	VOC Meter
A7 (CA1)	Acrylamide	5 mg/m ³	Quarterly	MDHS 57
A7 (CA1)	Acrylic Acid	5 mg/m ³	Quarterly	Gastec Tube
A7 (CA1)	Ammonia	10 mg/m ³	Quarterly	Gastec Tube
A7 (CA1)	Sulphur Dioxide	50 mg/m ³	Quarterly	Gastec Tube
A7 (CA1)	n – Decane (Measured as VOC Toluene)	20 mg/m ³	Quarterly	VOC Meter
A8 (CA2)	Formaldehyde	5 mg/m ³	Quarterly	DNPH/HPLC
A8 (CA2)	Methanol (Measured as VOC Toluene)	40 mg/m ³	Quarterly	VOC Meter
A8 (CA2)	Dimethylamine	5 mg/m ³	Quarterly	Gastec Tube
A9 (CA3)	n – Decane (Measured as VOC Toluene)	10 mg/m ³	Quarterly	VOC Meter
A10 (FA2)	Formaldehyde	5 mg/m ³	Quarterly	DNPH/HPLC
A10 (FA2)	Methanol	1 mg/m ³	Quarterly	Gastec Tube
A11 (FA3)	Ammonia	10 mg/m ³	Quarterly	Gastec Tube
A11 (FA3)	Formaldehyde	5 mg/m ³	Quarterly	DNPH/HPLC
A11 (FA3)	Methanol	1 mg/m ³	Quarterly	Gastec Tube
A12 (FA5)	Formaldehyde	5 mg/m ³	Quarterly	DNPH/HPLC
A12 (FA5)	Methanol	5 mg/m ³	Quarterly	Gastec Tube
A13 (FA8)	Methanol	0.5 kg/hr	Quarterly	Estimated (2)
A14 (FA9)	Methanol	0.5 kg/hr	Quarterly	Estimated (2)
A15 (FA12)	Formaldehyde	5 mg/m ³	Quarterly	DNPH/HPLC
A15 (FA12)	Methanol	5 mg/m ³	Quarterly	Gastec
A16 (FA15)	Formaldehyde	5 mg/m ³	Quarterly	DNPH/HPLC
A16 (FA15)	Methanol (Measured as VOC Toluene)	40 mg/m ³	Quarterly	VOC Meter
A16 (FA15)	Nitrogen Dioxide	50 mg/m ³	Quarterly	Gastec Tube
A17 (FA16)	Nitrogen Dioxide	150 mg/m ³	Quarterly	Gastec Tube
A18 (FA24)	Formaldehyde	5 mg/m ³	Quarterly	DNPH/HPLC
A18 (FA24)	Methanol (Measured as VOC Toluene)	20 mg/m ³	Quarterly	VOC Meter

Note 1: See Section 6 for reference conditions, limits are instantaneous.

Note 2: Taken as average vent concentration multiplied by the volume of expressed air and actual number of deliveries.

2.2.1.4 No condition.

2.2.2 Emissions to water (other than groundwater), including heat, from specified points

2.2.2.1 This Part 2.2.2 of this Permit shall not apply to releases of odour, noise or vibration or to releases to groundwater.

Emissions to Water (other than to Sewer)

2.2.2.2 Conditions 2.2.2.3 - 2.2.2.6 shall not apply to emissions to sewer.

2.2.2.3 Emissions to water from the emission point(s) specified in Table 2.2.4 shall only arise from the source(s) specified in that Table.

Table 2.2.4: Emission point to water

Emission Point Reference or description	Source	Receiving Water
W1 (Formerly FW1)	Groundwater abstraction from Boreholes A and B to prevent site flooding	River Alyn
W1	Off site surface water drainage via Parry's Ditch to prevent site flooding	River Alyn

The limits for the emissions to water for the parameter(s) and emission point(s) set out in Table 2.2.5 shall not be exceeded.

No condition.

Table 2.2.5 : Emission limits to water and monitoring

Emission point reference	Parameter	Limit (including Reference Period, 1)	Monitoring frequency	Monitoring method
W1 (Formerly FW1)	pH	Min. 6 Max. 8.5	Weekly	pH Meter
W1	Biological Oxygen Demand	10 mg/l	Monthly	ISO 5815:1989
W1	Total Suspended Solids	20 mg/l	Monthly	GFA ISO11929:1997
W1	Formaldehyde	0.25 mg/l	Weekly	DNPH/HPLC
W1	Ammonia (Unionised as Nitrogen)	5 mg/l	Weekly	Ion Selective Electrode
W1	Temperature	25 C	Weekly	Calibrated Thermometer
W1	Volumetric Flow Rate (2)	700 m ³ /day	Weekly	Meter (ISBN 011752364X)

Note 1: See Section 6 for reference conditions, limits are instantaneous.

Note 2: To not exceed 30 m³/hour

2.2.2.6 No condition.

Emissions to sewer

2.2.2.7 Emissions to sewer from the specified emission points in Table 2.2.7 shall only arise from the source(s) specified in that Table.

Table 2.2.7 Emission points to sewer

Emission point reference or description	Source	Sewer
S1 (Formerly FS1)	Waste water from Synthite (process, surface, culvert, cooling etc.) and selected waste water from Dynea upon agreement	Welsh Water Mold Industrial Estate Wastewater Treatment Woks

2.2.2.8 The limits for the emissions to sewer for the parameter(s) and emission point(s) set out in Table 2.2.8 shall not be exceeded.

Table 2.2.8 : Emission limits and monitoring frequency to sewer

Emission point reference	Substance	Limit (including Reference Period, 1)	Monitoring frequency	Monitoring method
S1 (Formerly FS1)	pH	Min. 5 Max. 9	3 Times/Week	pH Meter
S1	Total Suspended Solids	400 mg/l	3 Times/Week	GFA ISO11929:1997
S1	Formaldehyde	40 mg/l	3 Times/Week	DNPH/HPLC
S1	Methanol	40 mg/l	3 Times/Week	Gas Chromatography
S1	Ammonia (Unionised as Nitrogen)	25 mg/l	3 Times/Week	Ion Selective Electrode
S1	Chemical Oxygen Demand	1500 mg/l	3 Times/Week	Dichromate ISO6060:1989
S1	Grease and Oils	10 mg/l	Monthly	Gas Chromatography
S1	Volumetric Flow Rate	300 m3/day	3 Times/Week	Meter ISBN 011752364X
S1	Temperature	40 C	3 Times/Week	Calibrated Thermometer

Note 1: See Section 6 for reference conditions, limits are instantaneous.

2.2.2.9 No condition.

2.2.2.10 No condition.

2.2.3 Emissions to groundwater

- 2.2.3.1 No emission from the Permitted Installation shall give rise to the introduction into groundwater of any substance in List I (as defined in the Groundwater Regulations 1998 (S.I. 1998 No. 2746)).
- 2.2.3.2 No emission from within the Permitted Installation shall give rise to the introduction into groundwater of any substance in List II (as defined in the Groundwater Regulations 1998 (S.I. 1998 No. 2746)) so as to cause pollution (as defined in the Groundwater Regulations 1998 (S.I. 1998 No. 2746)).
- 2.2.3.3 For substances other than those in List I or II (as defined in the Groundwater Regulations 1998 (SI 1998 No.2746)), the Operator shall use BAT to prevent or where that is not practicable to reduce emissions to groundwater from the Permitted Installation provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.2.4 Fugitive emissions of substances to air

- 2.2.4.1 The Operator shall use BAT so as to prevent or where that is not practicable to reduce fugitive emissions of substances to air from the Permitted Installation in particular from:
- storage areas
 - buildings
 - pipes, valves and other transfer systems
 - open surfaces
- provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.
- 2.2.4.2 The Operator shall use BAT so as to prevent or where that is not practicable to reduce emissions of litter from the Permitted Installation provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.2.5 Fugitive emissions of substances to water and sewer

- 2.2.5.1 Subject to condition 2.2.5.2 below, the Operator shall use BAT so as to prevent or where that is not practicable to reduce fugitive emissions of substances to water (other than Groundwater) and sewer from the Permitted Installation in particular from:
- all structures under or over ground
 - surfacing
 - bunding
 - storage areas

provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

- 2.2.5.2 There shall be no release to water that would cause a breach of an EQS established by the UK Government to implement the Dangerous Substances Directive 76/464/EEC.

2.2.6 Odour

- 2.2.6.1 The Operator shall use BAT so as to prevent or where that is not practicable to reduce odorous emissions from the Permitted Installation, in particular by:

- limiting the use of odorous materials
- restricting odorous activities
- controlling the storage conditions of odorous materials
- controlling processing parameters to minimise the generation of odour
- optimising the performance of abatement systems
- timely monitoring, inspection and maintenance
- employing, where appropriate, an approved odour management plan

provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

- 2.2.6.2 No condition.

- 2.2.6.3 No condition.

2.2.7 Emissions to Land

- 2.2.7.1 This Part 2.2.7 of this Permit shall not apply to emissions to groundwater.

- 2.2.7.2 No emission from the Permitted installation shall be made to land.

- 2.2.7.3 No condition.

2.2.8 Equivalent Parameters or Technical Measures

- 2.2.8.1 The Operator shall comply with the requirements specified in Table 2.2.11, which supplement or replace emission limit values in accordance with Regulation 12(8) of the PPC Regulations.

Table 2.2.11 Equivalent parameters and technical measures

Parameter or measure	Requirement or description of measure, and frequency if relevant
None required	

2.3 Management

- 2.3.1 A copy of this Permit and those parts of the application referred to in this Permit shall be available, at all times, for reference by all staff carrying out work subject to the requirements of the Permit.

Training

- 2.3.2 The Permitted Installation shall be supervised by staff who are suitably trained and fully conversant with the requirements of this Permit.
- 2.3.3 All staff shall be fully conversant with those aspects of the Permit conditions which are relevant to their duties and shall be provided with adequate professional technical development and training and written operating instructions to enable them to carry out their duties.
- 2.3.4 The Operator shall maintain a record of the skills and training requirements for all staff whose tasks in relation to the Permitted Installation may have an impact on the environment and shall keep records of all relevant training.

Maintenance

- 2.3.5 All plant and equipment used in operating the Permitted Installation, the failure of which could lead to an adverse impact on the environment, shall be maintained in good operating condition.
- 2.3.6 The Operator shall maintain a record of relevant plant and equipment covered by condition 2.3.5 and for such plant and equipment:
- 2.3.6.1 a written or electronic maintenance programme; and
 - 2.3.6.2 records of its maintenance.

Incidents and Complaints

- 2.3.7 The Operator shall maintain and implement written procedures for:
- 2.3.7.1 taking prompt remedial action, investigating and reporting actual or potential non-compliance with operating procedures or emission limits and if such event occur;
 - 2.3.7.2 investigating incidents, (including any malfunction, breakdown or failure of plant, equipment or techniques, down time, any short term and long term remedial measures and near misses) and prompt implementation of appropriate actions; and
 - 2.3.7.3 ensuring that detailed records are made of all such actions and investigations.
- 2.3.8 The Operator shall record and investigate complaints concerning the Permitted Installation's effects or alleged effects on the environment. The record shall give the date and nature of complaint, time of complaint, name of complainant (if given), a summary of any investigation and the results of such investigation and any actions taken.
- 2.3.9 No condition.
- 2.3.10 No condition.

2.4 Efficient use of raw materials

- 2.4.1 The Operator shall -

- 2.4.1.1 maintain the raw materials table or description submitted in response to Section 2.4 of the Application and in particular consider on a periodic basis whether there are suitable alternative materials to reduce environmental impact;
- 2.4.1.2 carry out periodic waste minimisation audits and water use efficiency audits. If such an audit has not been carried out in the 2 years prior to the issue of this Permit, then the first such audit shall take place within 2 years of its issue. The methodology used and an action plan for increasing the efficiency of the use of raw materials or water shall be submitted to the Agency within 2 months of completion of each such audit and a review of the audit and a description of progress made against the action plan shall be submitted to the Agency at least every 4 years thereafter; and
- 2.4.1.3 ensure that incoming water use is directly measured and recorded.

2.5 Waste Storage and Handling

- 2.5.1 The Operator shall design, maintain and operate all facilities for the storage and handling of waste on site such that there are no releases to water or land during normal operation and that emissions to air and the risk of accidental release to water or land are minimised.

Waste recovery or disposal

Waste produced at the Permitted Installation shall be:

recovered to no lesser extent than described in the Application; and

where not recovered, disposed of while avoiding or reducing any impacts on the environment provided always that this is not done in any way that would have a greater effect on the environment than that described in the Application.

- 2.6.2 The Operator shall maintain the waste recovery or disposal table or description submitted in response to Section 2.6 of the Application and in particular identify the best practicable environmental options for waste disposal.
- 2.6.3 The Operator shall maintain and implement a system which ensures that a record is made of the quantity, composition, origin, destination (including whether this is a recovery or disposal operation) and where relevant removal date of any waste that is produced at the Permitted Installation.
- 2.6.4 No condition.

2.7 Energy Efficiency

- 2.7.1 The Operator shall produce a report on the energy consumed at the Permitted Installation over the previous calendar year, by 31 January each year, providing the information required by condition 4.1.2.

- 2.7.2 The Operator shall maintain and update annually an energy management system which shall include, in particular, the monitoring of energy flows and targeting of areas for improving energy efficiency.
- 2.7.3 The Operator shall design, maintain and operate the Permitted Installation so as to secure energy efficiency, taking into account relevant guidance including the Agency's Energy Efficiency Horizontal Guidance Note H2 as from time to time amended. Energy efficiency shall be secured in particular by:
- ensuring that the appropriate operating and maintenance systems are in place;
 - ensuring that all plant is adequately insulated to minimise energy loss or gain;
 - ensuring that all appropriate containment methods, (e.g. seals and self-closing doors) are employed and maintained to minimise energy loss;
 - employing appropriate basic controls, such as simple sensors and timers, to avoid unnecessary discharge of heated water or air;
 - where building services constitute more than 5% of the total energy consumption of the installation, identifying and employing the appropriate energy efficiency techniques for building services, having regard in particular to the Building services part of the Agency's Energy Efficiency Horizontal Guidance Note H2; and
 - maintaining and implementing an energy efficiency plan which identifies energy saving techniques that are applicable to the activities and their associated environmental benefit and prioritises them, having regard to the appraisal method in the Agency's Energy Efficiency Horizontal Guidance Note H2.

2.8 Accident prevention and control

- 2.8.1 The Operator shall maintain and implement when necessary the accident management plan submitted or described in response to Section 2.8 of the Application. The plan shall be reviewed at least every 2 years or as soon as practicable after an accident, whichever is the earlier, and the Agency notified of the results of the review within 2 months of its completion.

2.9 Noise and Vibration

- 2.9.1 The Operator shall use BAT so as to prevent or where that is not practicable to reduce emissions of noise and vibration from the Permitted Installation, in particular by:
- equipment maintenance, eg. of fans, pumps, motors, conveyors and mobile plant;
 - use and maintenance of appropriate attenuation, eg. silencers, barriers, enclosures;
 - timing and location of noisy activities and vehicle movements;

- periodic checking of noise emissions, either qualitatively or quantitatively; and
- maintenance of building fabric,

provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.9.2 No condition.

2.9.3 No condition.

2.10 On-site Monitoring

2.10.1 The Operator shall maintain and implement an emissions monitoring programme which ensures that emissions are monitored from the specified points, for the parameters listed in and to the frequencies and methods described in Tables 2.2.2, 2.2.5 and 2.2.8, unless otherwise agreed in writing, and that the results of such monitoring are assessed. The programme shall ensure that monitoring is carried out under an appropriate range of operating conditions.

2.10.2 The Operator shall carry out environmental or other specified monitoring to the frequencies and methods described in Table 2.10.1

Table 2.10.1 : Other monitoring requirements

Emission point reference or source or description of point of measurement	Substance or parameter	Monitoring frequency	Monitoring method	Other specifications
Groundwater reference points B/H1, B/H8, B/H9, B/H10, B/HA, B/HB, SP4	Groundwater level m	Quarterly	Electronic Dip Tape	None
Groundwater reference points B/H1, B/H8, B/H9, B/H10, B/HA, B/HB, SP4	Formaldehyde mg/l	Quarterly	DNPH/HPLC	None
Sample culvert at culvert pump as identified on MAP6 Drainage Diagram	Formaldehyde mg/l	Weekly	DNPH/HPLC	None
River Alyn sampled downstream at SJ 2363 6487	Formaldehyde mg/l	Weekly	DNPH/HPLC	None
River Alyn sampled downstream at SJ 2363 6487	pH	Weekly	pH Meter	None

2.10.3 No condition.

2.10.4 No condition.

2.10.5 The Operator shall notify the Agency at least 14 days in advance of undertaking monitoring and/ or spot sampling, where such notification has been requested in writing by the Agency.

2.10.6 The Operator shall maintain records of all monitoring taken or carried out (this includes records of the taking and analysis of samples instrument measurements (periodic and continual), calibrations, examinations, tests and surveys) and any assessment or evaluation made on the basis of such data.

- 2.10.7 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme in condition 2.10.1 of this Permit and the environmental or other monitoring specified in condition 2.10.2 shall have either MCERTS certification or MCERTS accreditation (as appropriate) unless otherwise agreed in writing.
- 2.10.8 There shall be provided:
- 2.10.8.1 safe and permanent means of access to enable sampling/monitoring to be carried out in relation to the emission points specified in Schedule 2 to this Permit, unless otherwise specified in that Schedule; and
 - 2.10.8.2 safe means of access to other sampling/monitoring points when required by the Agency.
- 2.10.9 The Operator shall carry out the on-going monitoring identified in the Site Protection and Monitoring Programme submitted under condition 4.1.7, unless otherwise agreed in writing by the Agency.
- 2.10.10 The Operator shall, within 6 months of the issue of this Permit, in accordance with and using the format given in the Land Protection Guidance:
- 2.10.10.1 collect the site reference data identified in the Site Protection and Monitoring Programme submitted under condition 4.1.7, and
 - 2.10.10.2 report that site reference data to the Agency,
 - unless otherwise agreed in writing by the Agency.

2.11 Closure and Decommissioning

- 2.11.1 The Operator shall maintain and operate the Permitted Installation so as to prevent or minimise any pollution risk, including the generation of waste, on closure and decommissioning in particular by:-
- 2.11.1.1 attention to the design of new plant or equipment;
 - 2.11.1.2 the maintenance of a record of any events which have, or might have, impacted on the condition of the site along with any further investigation or remediation work carried out; and
 - 2.11.1.3 the maintenance of a site closure plan to demonstrate that the installation can be decommissioned avoiding any pollution risk and returning the site of operation to a satisfactory state.
- 2.11.2 Notwithstanding condition 2.11.1 of this Permit, the Operator shall carry out a full review of the Site Closure Plan at least every 4 years.
- 2.11.3 The site closure plan shall be implemented on final cessation or decommissioning of the Permitted activities or part thereof.
- 2.11.4 The Operator shall give at least 30 days written notice to the Agency before implementing the site closure plan.

2.12 Multiple Operator installations

2.12.1 There are no conditions as a result of the interactions of the Permits covering this installation

2.13 Transfer to effluent treatment plant

2.13.1 No transfers to effluent treatment plant are controlled under this part of this Permit.

2.13.2 No condition.

3 Records

- 3.1 The Operator shall ensure that all records required to be made by this Permit and any other records made by it in relation to the operation of the Permitted Installation shall:-
- 3.1.1 be made available for inspection by the Agency at any reasonable time;
 - 3.1.2 be supplied to the Agency on demand and without charge;
 - 3.1.3 be legible;
 - 3.1.4 be made as soon as reasonably practicable;
 - 3.1.5 indicate any amendments which have been made and shall include the original record wherever possible;
 - 3.1.6 be retained at the Permitted Installation, or other location agreed by the Agency in writing, for a minimum period of 4 years from the date when the records were made, unless otherwise agreed in writing; and
 - 3.1.7 where they concern the condition of the site of the Installation or are related to the implementation of the Site Protection and Monitoring Programme, be kept at the Permitted Installation, or other location agreed by the Agency in writing, until all parts of the Permit have been surrendered.

4 Reporting

- 4.1.1 All reports and written and or oral notifications required by this Permit and notifications required by Regulation 16 of the PPC Regulations shall be made or sent to the Agency using the contact details notified in writing to the Operator by the Agency.
- 4.1.2 The Operator shall, unless otherwise agreed in writing, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:
- 4.1.2.1 in respect of the parameters and emission points specified in Table S2 to Schedule 2;
 - 4.1.2.2 for the reporting periods specified in Table S2 to Schedule 2 and using the forms specified in Table S3 to Schedule 3;
 - 4.1.2.3 giving the information from such results and assessments as may be required by the forms specified in those Tables; and
 - 4.1.2.4 to the Agency within 28 days of the end of the reporting period.
- 4.1.3 The Operator shall submit to the Agency a report on the performance of the Permitted Installation over the previous year, by 31 January each year, providing the information listed in Tables S4.1 and S4.2 of Schedule 4, assessed at any frequency specified therein, and using the form specified in Table S3 to Schedule 3.
- 4.1.4 The Operator shall review fugitive emissions, having regard to the application of Best Available Techniques, on an annual basis, or such other period as shall be agreed in writing by the Agency, and a summary report on this review shall be sent to the Agency detailing such releases and the measures taken to reduce them within 3 months of the end of such period.
- 4.1.5 Where the Operator has a formal environmental management system applying to the Permitted Installation which encompasses annual improvement targets the Operator shall, not later than 31 January in each year, provide a summary report of the previous year's progress against such targets.
- 4.1.6 The Operator shall, within 6 months of receipt of written notice from the Agency, submit to the Agency a report assessing whether all appropriate preventive measures continue to be taken against pollution, in particular through the application of the best available techniques, at the installation. The report shall consider any relevant published technical guidance current at the time of the notice which is either supplied with or referred to in the notice, and shall assess the costs and benefits of applying techniques described in that guidance, or otherwise identified by the Operator, that may provide environmental improvement.
- 4.1.7 The Operator shall, within two months of the date of this permit, submit a detailed Site Protection and Monitoring Programme, in accordance with and using the appropriate template format given in the Land Protection Guidance.
- 4.1.8 The Operator shall maintain the Site Protection and Monitoring Programme (SPMP) submitted under condition 4.1.7, and shall carry out regular reviews of it. The results of such reviews and any changes made to the SPMP shall be reported to the Agency within [1 month] of the review or change.

5 Notifications

- 5.1.1 The Operator shall notify the Agency **without delay** of:-
- 5.1.1.1 the detection of an emission of any substance which exceeds any limit or criterion in this Permit specified in relation to the substance;
 - 5.1.1.2 the detection of any fugitive emission which has caused, is causing or may cause significant pollution unless the quantity emitted is so trivial that it would be incapable of causing significant pollution;
 - 5.1.1.3 the detection of any malfunction, breakdown or failure of plant or techniques which has caused, is causing or has the potential to cause significant pollution; and
 - 5.1.1.4 any accident which has caused, is causing or has the potential to cause significant pollution.
- 5.1.2 The Operator shall submit written confirmation to the Agency of any notification under condition 5.1.1, by sending:-
- 5.1.2.1 the information listed in Part A of Schedule 1 to this Permit within 24 hours of such notification; and
 - 5.1.2.2 the more detailed information listed in Part B of that Schedule as soon as practicable thereafter;
- and such information shall be in accordance with that Schedule.
- 5.1.3 The Operator shall give written notification as soon as practicable prior to any of the following:-
- 5.1.3.1 permanent cessation of the operation of part or all of the Permitted Installation;
 - 5.1.3.2 cessation of operation of part or all of the Permitted Installation for a period likely to exceed 1 year; and
 - 5.1.3.3 resumption of the operation of part or all of the Permitted Installation after a cessation notified under condition 5.1.3.2.
- 5.1.4 The Operator shall notify the Agency, as soon as reasonably practicable, of any information concerning the state of the Site which adds to that provided to the Agency as part of the Application or to that in the Site Protection and Monitoring Programme submitted under condition 4.1.7 of this Permit.
- 5.1.5 The Operator shall notify the following matters to the Agency in writing within 14 days of their occurrence:-
- 5.1.5.1 where the Operator is a registered company:-
 - any change in the Operator's trading name, registered name or registered office address;
 - any change to particulars of the Operator's ultimate holding company (including details of an ultimate holding company where an Operator has become a subsidiary)
 - any steps taken with a view to the Operator going into administration, entering into a company voluntary arrangement or being wound up;
 - 5.1.5.2 where the Operator is a corporate body other than a registered company:
 - any change in the Operator's name or address;
 - any steps taken with a view to the dissolution of the Operator.

Notifications

- 5.1.5.3 In any other case: -
- the death of any of the named Operators (where the Operator consists of more than one named individual);
 - any change in the Operator's name(s) or address(es);
 - any steps taken with a view to the Operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case them being in a partnership, dissolving the partnership;
- 5.1.6 Where the Operator has entered into a Climate Change Agreement with the Government, the Operator shall notify the Agency within one month of:-
- 5.1.6.1 a decision by the Secretary of State not to re-certify that Agreement.
- 5.1.6.2 a decision by either the Operator or the Secretary of State to terminate that agreement.
- 5.1.6.3 any subsequent decision by the Secretary of State to re-certify such an Agreement.
- 5.1.7 Where the Operator has entered into a Direct Participant Agreement in the Emissions Trading Scheme which covers emissions relating to the energy consumption of the activities, the Operator shall notify the Agency within one month of:-
- 5.1.7.1 a decision by the Operator to withdraw from or the Secretary of State to terminate that agreement.
- 5.1.7.2 a failure to comply with an annual target under that Agreement at the end of the trading compliance period.
- 5.1.8 The Operator shall notify the Agency in writing of any known or planned introduction or material change in respect to emissions from the permitted installation to water that may increase or introduce into the effluent any "dangerous substance" as defined in List I and List II of the dangerous substances directive 76/464/EEC and its daughter directives.

6 Interpretation

6.1.1 In this Permit, the following expressions shall have the following meanings:-

“Application” means the application for this Permit, together with any response to a notice served under Schedule 4 to the PPC Regulations and any operational change agreed under the conditions of this Permit.

“background concentration” means such concentration of that substance as is present in:

- water supplied to the site; or
- where more than 50% of the water used at the site is directly abstracted from ground or surface water on site, the abstracted water; or
- where the Permitted Installation uses no significant amount of supplied or abstracted water, the precipitation on to the site.

“BAT” means best available techniques means the most effective and advanced stage of development of activities and their methods of operation which indicates the practical suitability of particular techniques to prevent and where that is not practicable to reduce emissions and the impact on the environment as a whole. For these purposes: “available techniques” means “those techniques which have been developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the cost and advantages, whether or not the techniques are used or produced inside the United Kingdom, as long as they are reasonably accessible to the operator”; “best” means “in relation to techniques, the most effective in achieving a high general level of protection of the environment as a whole” and “techniques” “includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned.”. In addition, Schedule 2 of the PPC Regulations has effect in relation to the determination of BAT.

“Fugitive emission” means an emission to air or water (including sewer) from the Permitted Installation which is not controlled by an emission or background concentration limit under conditions 2.2.1.3, 2.2.2.4, 2.2.2.5, 2.2.2.8 or 2.2.2.9 of this Permit.

“Groundwater” means all water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

“Land Protection Guidance” means the version of the Agency guidance note “H7 - Guidance on the Protection of Land under the PPC Regime: Application Site Report and Site Protection and Monitoring Programme”, including its appended templates for data reporting, which is current at the time of issue of the Permit.

“ $L_{Aeq,T}$ ” means the equivalent continuous A-weighted sound pressure level in dB determined over time period, T.

“ $L_{A90,T}$ ” means the A-weighted sound pressure level in dB exceeded for 90% of the time period, T.

“ L_{AFmax} ” means the maximum A weighted sound level measurement in dB measured with a fast time weighting.

“MCERTS” means the Environment Agency’s Monitoring Certification Scheme.

“Monitoring” includes the taking and analysis of samples, instrumental measurements (periodic and continual), calibrations, examinations, tests and surveys.

“Permitted Installation” means the activities and the limits to those activities described in Table 1.1.1 of this Permit.

Interpretation

"*PPC Regulations*" means the Pollution, Prevention and Control (England and Wales) Regulations SI 2000 No.1973 (as amended) and words and expressions defined in the PPC Regulations shall have the same meanings when used in this Permit save to the extent they are specifically defined in this Permit.

"*Sewer*" means sewer within the meaning of section 219(1) of the Water Industry Act 1991.

"*Staff*" includes employees, directors or other officers of the Operator, and any other person under the Operator's direct or indirect control, including contractors.

"*Year*" means calendar year ending 31 December.

- 6.1.2 Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.
- 6.1.3 Unless otherwise stated, any references in this Permit to concentrations of substances in emissions into air means:-
 - 6.1.3.1 in relation to gases from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid and gaseous fuels, 6% dry for solid fuels; and/or
 - 6.1.3.2 in relation to gases from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content.
- 6.1.4 Where any condition of this Permit refers to the whole or parts of different documents, in the event of any conflict between the wording of such documents, the wording of the document(s) with the most recent date shall prevail to the extent of such conflict.

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	
Name of Operator	
Location of Installation	
Location of the emission	
Time and date of the emission	

Substance(s) emitted	Media	Best estimate of the quantity or the rate of emission	Time during which the emission took place

Measures taken, or intended to be taken, to stop the emission	
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Part B

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
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 dates of any unauthorised emissions from the installation in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of Synthite Limited.

Schedule 2 - Reporting of monitoring data

Parameters for which reports shall be made, in accordance with conditions 4.1.2 and 4.1.3 of this Permit, are listed below.

Schedule 2 - Reporting of monitoring data

Table S2: Reporting of monitoring data			
Parameter	Emission point	Reporting period	Period begins (1)
Ammonia mg/m ³	A2, A5 A6, A7, A11	Quarterly	01/01/05
Propionic Acid (Measured as VOC Toluene) mg/m ³	A3	Quarterly	01/01/05
Formic Acid (Measured as VOC Toluene) mg/m ³	A4, A6	Quarterly	01/01/05
Formic & Propionic Acid (Measured as VOC Toluene) mg/m ³	A5	Quarterly	01/01/05
Acrylamide mg/m ³	A7	Quarterly	01/01/05
Acrylic Acid mg/m ³	A7	Quarterly	01/01/05
Sulphur Dioxide mg/m ³	A7	Quarterly	01/01/05
n – Decane (Measured as VOC Toluene) mg/m ³	A7, A9	Quarterly	01/01/05
Formaldehyde mg/m ³	A8, A10, A11, A12, A15, A16, A18	Quarterly	01/01/05
Methanol mg/m ³	A10, A11, A12, A15	Quarterly	01/01/05
Methanol kg/hr	A13, A14	Quarterly	01/01/05
Methanol (Measured as VOC Toluene) mg/m ³	A8, A16, A18	Quarterly	01/01/05
Dimethylamine mg/m ³	A1, A8	Quarterly	01/01/05
Nitrogen Dioxide mg/m ³	A16, A17	Quarterly	01/01/05
pH	W1	Quarterly	01/01/05
Biological Oxygen Demand mg/l	W1	Quarterly	01/01/05
Total Suspended Solids mg/l	W1	Quarterly	01/01/05
Formaldehyde mg/l	W1	Quarterly	01/01/05
Ammonia (Unionised as Nitrogen) mg/l	W1	Quarterly	01/01/05
Temperature C	W1	Quarterly	01/01/05
Volumetric Flow Rate m ³ /day	W1	Quarterly	01/01/05
pH	S1	Quarterly	01/01/05
Total Suspended Solids mg/l	S1	Quarterly	01/01/05
Formaldehyde mg/l	S1	Quarterly	01/01/05
Methanol mg/l	S1	Quarterly	01/01/05
Ammonia (Unionised as Nitrogen) mg/l	S1	Quarterly	01/01/05
Chemical Oxygen Demand mg/l	S1	Quarterly	01/01/05
Grease and Oils mg/l	S1	Quarterly	01/01/05
Volumetric Flow Rate m ³ /day	S1	Quarterly	01/01/05
Temperature C	S1	Quarterly	01/01/05
Groundwater Level m	Borehole Reference Points B/H1, B/H8, B/H9, B/H10, B/HA, B/HB, SP4	Quarterly	01/01/05
Formaldehyde mg/l	Borehole Reference Points B/H1, B/H8, B/H9, B/H10, B/HA, B/HB, SP4	Quarterly	01/01/05
Formaldehyde mg/l	Sample culvert at culvert pump as identified on MAP6 Drainage Diagram	Quarterly	01/01/05
Formaldehyde mg/l	River Alyn sampled downstream at SJ 2363 6487	Quarterly	01/01/05
pH	River Alyn sampled downstream at SJ 2363 6487	Quarterly	01/01/05
Water usage		Annually	
Energy usage		Annually	
Waste disposal		Annually	

Note 1: The first period of reporting shall run from the date of issue of the permit until 31/12/04

Schedule 3 - Forms to be used

Table S3: Reporting Forms		
Media / parameter	Form Number	Date of Form
Air	A1	01/09/04
Water (excluding sewer)	W1	01/09/04
Sewer	S1	01/09/04
Energy	E1	01/09/04
Waste Return	R1	01/09/04
Water usage	WU1	01/09/04
Performance indicators	PI1	Yet to be determined (1)

Note 1: Performance indicators are subject to an improvement programme requirement.

Schedule 4 - Reporting of performance data

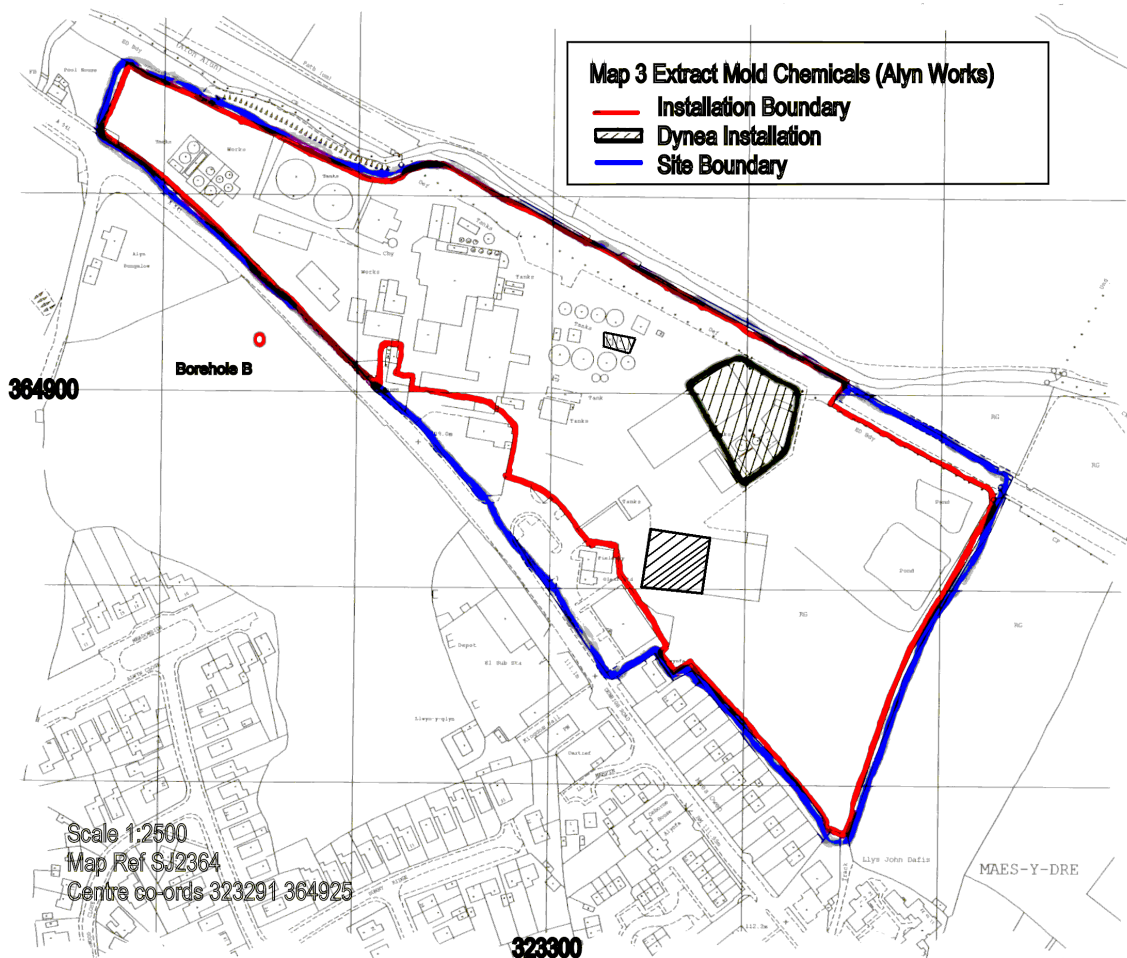
Data required to be recorded and reported by Condition 4.1.3. The data should be assessed at the frequency given and reported annually to the Agency.

Table S4.1: Annual Production/Treatment	
Yet to be determined (1)	

Table S4.2: Performance parameters			
Parameter		Frequency of assessment	Performance indicator
Yet to be determined (1)			

Note 1: Performance indicators are subject to an improvement programme requirement.

Schedule 5 - Site Plan



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END OF PERMIT