



ENVIRONMENT  
AGENCY

## Permit with introductory note

Pollution Prevention and Control Regulations 2000

*Newport Chemical Complex  
Solutia UK Ltd  
Corporation Rd  
Newport  
Gwent  
NP19 4XF*

Permit number

BR9715

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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 an installation carrying out activities covered by the description in Section 4.1 A (1) (a) (i), (ii), (iv) and (v) in Part 1 to Schedule 1 of the PPC Regulations, to the extent authorised by the Permit:

Section 4.1 A(1) (a), various subsections - "Producing Organic Chemicals" such as:

hydrocarbons (i)

oxygen containing compounds (ii)

nitrogen containing compounds (iv)

phosphorous containing compounds (v)

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 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.

Solutia's chemical manufacturing installation operates under Schedules 4.1 A(1) (a), 4.2A (1) (a) and 1.1 A(1)(a). Six production plants using organic and/or inorganic processes are operated. Techniques used include pyrolysis, aqueous or anhydrous reactions, esterification, hydrogenation, drying, pastillation, distillation and filtering. The six production plants incorporate modern technology including a computer-based system so that the processes operate consistently.

**Dequest**® is a range of organic phosphonates used mainly as scale inhibitors in water treatment, and as sequestrants (preventing metals in solution causing discolouration) in the detergent industries.

**Santoflex**® IPPD is used mainly as an antioxidant and flexcracking preventer in natural and synthetic rubbers, especially in tyres.

**Santicizer**® phosphate esters are flame retardant plasticizers. These are manufactured by Solutia for Ferro. They are particularly used in PVC and its copolymers to give low temperature flexibility.

**Biphenyl** is produced by the pyrolysis of benzene. It is sold as an intermediate for the production of optical brighteners and is also a constituent of heat transfer fluids.

The **Therminol**® range of products are made from polyphenyls and are used mainly as high temperature heat transfer fluids. **Saflex**® plasticizer **S2075** is used as the plasticiser for the safety interlayer in car windscreens and side windows to prevent shattering and allows absorption of head impact in the event of an accident.

Point source emissions to air include combustion products (oxides of carbon, nitrogen and sulphur) from the site's boilers which produce steam and some electricity for site operations. These emissions take place from high stacks attached to the boilers, assisting the dispersion and dilution into the atmosphere.

On the Dequest and Santicizer plants 'water scrubbers' are used to prevent emissions of acidic gases. Condensers are used on the Santoflex plant to prevent loss of acetone and to allow its reuse. The

handling of volatile liquids, particularly at high temperatures, is done in closed systems to contain them, and for safety reasons. The main bulk storage for Benzene avoids loss to air by use of 'vapour return' when a tanker delivers.

Fugitive releases to air are mainly VOC's which are released from valve glands, pump seals and vents. Annual checks are done on the 2 plants that handle volatile liquids in order to minimise these leaks.

Aqueous point source emissions consist of surface water run-off, process effluents from the production plants and site sewage. Currently these streams are mixed and treated with lime to control pH to prevent the effluent becoming very acidic. The effluent is not biologically treated but is discharged through a 5km underground pipeline into the Severn Estuary, where rapid dilution occurs except at low tide (when no discharge may take place +/- 2 hours of low tide).

The discharge of 'red list' substances in the site effluent is because in the past PCB, PCP, & chlorine (made in a mercury cellhouse) were manufactured on-site. These activities left a legacy of soil contamination. Consultants completed a comprehensive risk assessment in 1992, to determine if these activities had resulted in any unacceptable risks. This assessment concluded that the site was stable and did not pose a threat to human health or the environment. A risk management strategy was developed to ensure this stability was maintained and some voluntary remediation work was completed in 1996.

The PPC permit does not regulate this historical ground contamination, but does regulate those legacy emissions that find their way (underground) into the emissions from the permitted installation that are released to the Severn estuary.

EA Policy advice given during the determination process means that discharges from the site effluent of these 'red list' substances will be regulated under the PPC Permit, though not the legacy of soil contamination. The rationale to this decision lies with the fact that the PPC Regulations aim to control current and future pollution rather than historic contamination.

Off-site impacts from odour and noise generated at the site are not expected to be significant based upon levels of external complaints.

Solutia has an Environmental Management System (EMS) which has been accredited to ISO 14001 and EMAS for over 5 years.

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 |
|---------------|---------------|---------------|
| -             | -             | -             |

#### Superseded Licences/Authorisations/Consents relating to this installation

| Holder         | Reference Number | Date of Issue |
|----------------|------------------|---------------|
| Solutia UK Ltd | AA 1988          | 02/04/92      |
| Solutia UK Ltd | AI 5372          | 11/05/94      |
| Solutia UK Ltd | AG 6940          | 17/02/92      |
| Solutia UK Ltd | AN 6787          | 26/10/94      |
| Solutia UK Ltd | AK9453           | 10/01/94      |
| Solutia UK Ltd | AW 6570          | 30/12/96      |
| Solutia UK Ltd | BA 9711          | 29/06/98      |

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. These excluded activities include the operations of AES Ltd, which operates 2 plants on-site, manufacturing a range of thermoplastic elastomers.

## 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 BR 9715                 | Received 31/03/03      |                           |
| Response to request for information | Request dated 01/08/03 | Response dated 12/9/03    |
| Request to extend determination     | Request dated 25/07/03 | Request accepted 28/07/03 |
| Request to extend determination     | Request dated 25/11/03 | Request accepted 05/12/03 |
| Permit determined                   | 28/01/04               |                           |

**End of Introductory Note.**

**Permit**

Pollution Prevention and Control  
Regulations 2000



**ENVIRONMENT  
AGENCY**

## Permit

Permit number

**BR 9715**

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 **Solutia UK Ltd** ("the Operator"),

Whose Registered Office (or principal place of business) is

**Corporation Road**

**Newport**

**Gwent**

**NP19 4XF**

**Company registration number 3295486**

to operate an Installation at

**Solutia UK Ltd**

**Corporation Road**

**Newport**

**Gwent**

**NP19 4XF**

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

Signed

Date

|  |  |
|--|--|
|  |  |
|--|--|

John Tomala

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.

| Activity listed in Schedule 1 of the PPC Regulations / Associated Activity | Description of specified activity                     | Limits of specified activity                              |
|--|---|---|
| Section 4.1 A(1) (a) (i): Organic Chemicals                                | Production of Hydrocarbons                            | Receipt of raw materials to despatch of finished product. |
| Section 4.1 A(1) (a) (ii): Organic Chemicals                               | Production of organic compounds containing oxygen     | Receipt of raw materials to despatch of finished product. |
| Section 4.1 A(1) (a) (iv): Organic Chemicals                               | Production of organic compounds containing halogens   | Receipt of raw materials to despatch of finished product. |
| Section 4.1 A(1) (a) (v): Organic Chemicals                                | Production of organic compounds containing phosphorus | Receipt of raw materials to despatch of finished product. |
| Section 1.1 A(1) (a): Combustion Activities                                | Directly Associated Activity                          | Site production of steam and electricity                  |
| Unlisted activity  | Directly Associated Activity                          | Operation of site effluent neutralisation plant           |

~~4.1.21.1.2~~ 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.

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### 1.2 Site

1.2.1 The activities authorised under condition 1.1.1 shall not extend beyond the Site, being the land shown edged in green on the Site Plan at Schedule 5 to this Permit. The area enclosed by red marking is outside the permitted installation.

### **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.

**General****Table 1.4.1: Improvement programme**

| Reference | Requirement  | Date                         |
|-----------|--|------------------------------|
| I.C. 1    | The Operator shall agree details with the Agency of a programme to measure the Toxicity of effluent releases from W1.  | 1 <sup>st</sup> April 2004   |
| I.C. 2    | The Operator shall provide the Agency with a report of the completed Water Audit for the Installation. The report shall include a timetable for any improvements identified as representing BAT.   | 1 <sup>st</sup> April 2004   |
| I.C. 3    | The Operator shall provide the Agency with a report of the completed Cooling Water Review for the Installation. The report shall include a timetable for any improvements identified as representing BAT.  | 1 <sup>st</sup> April 2004   |
| I.C. 4    | The Operator shall provide the Agency with a report of the completed Noise Assessment for the Installation carried out in December 03. The report shall include a timetable for any improvements identified as representing BAT.   | 1 <sup>st</sup> April 2004   |
| I.C.5     | The Operator shall provide the Agency with a report of the completed Santicizer change over review. The report shall include a quantification of the identified losses and a timetable for any improvements identified as representing BAT.  | 1 <sup>st</sup> April 2004   |
| I.C. 6    | The Operator shall submit a report reviewing the options for reducing the emissions of formaldehyde within the segregated effluent stream of the Dequest Amino range of products. The Operator shall agree, with the Agency, the scope of a comparison for this preferred option against those options available for treatments of the combined effluent stream. If one of the options represents BAT with respect to reducing the toxicity of the site effluent, the report shall contain a timetable for implementing that option. | 1 <sup>st</sup> May 2004     |
| I.C. 7    | The Operator shall provide the Agency with a report detailing the commissioning study for the installation of a packed bed scrubber on the releases from the S2075 reactor. This report shall quantify reductions observed in the releases to effluent of TEG.   | 1 <sup>st</sup> May 2004     |
| I.C. 8    | The Operator shall provide the Agency with a report detailing the commissioning study for the installation of the carbon bed filter at the phenol offload point. This report shall quantify reductions observed in the releases to air of phenol, provide details of how breakthrough from the bed shall be monitored and details of the fate of the spent bed.  | 1 <sup>st</sup> May 2004     |
| I.C. 9    | The Operator shall submit proposals, for agreement by the Agency, for a scheme to control the proposed separate surface water W2 discharge to the Estuary. This shall include details of the hardware, alarm and control philosophy to prevent gross contamination being discharged through W2 and to ensure that routine emissions achieve limits set out in Table 2.2.5 for this release point.  | 1 <sup>st</sup> May 2004     |
| I.C. 10   | The Operator shall review the anticipated environmental impact of releases of R50, R51 and R53 substances (dangerous to the environment) from the installation as set out on page 31, Section 8 of the Application for Permit. The review shall be sent to the Agency, together with proposals for any reductions that are considered to represent BAT.  | 1 <sup>st</sup> August 2004  |
| I.C.11    | The Operator shall provide proposals and timescales to the Agency for reducing the emissions of Chloromethane from the permitted installation.   | 1 <sup>st</sup> August 2004  |
| I.C.12    | The Operator shall provide a report to the Agency outlining a site closure report, having due regard for Guidance for Speciality organic Chemicals IPPC S4.02, section 2.11.   | 1 <sup>st</sup> October 2004 |
| I.C. 13   | 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. Where suitable standards are available at the time of the review, propose a timetable for achieving this standard for any elements that are not MCERTS certified.   | 1 <sup>st</sup> October 2004 |

**General**

|         |   |   |
|---------|---|---|
| I.C. 14 | The Operator shall provide, in writing, a protocol used by the operator to determine 'uncertainty' values associated with each parameter to be reported for each emission point together with an indication of the likely uncertainty values associated with the test methods to be used.   | 1 <sup>st</sup> October 2004            |
| I.C. 15 | The Operator shall conduct a risk assessment of the environmental impact of PCB's releases to the Estuary from Release Points W1 & W2. The assessment shall include their impact on the interest features of the Estuary as a designated European Site, opportunities for bio-accumulation within the food chain and thus potential for human health risks. The review shall be sent to the Agency, together with proposals for any reductions that are considered to represent BAT.  | 1 <sup>st</sup> February 2005           |
| I.C. 16 | The Operator shall carry out a fenceline monitoring study for Benzene having regard to Technical Guidance M8 (Ambient Air Monitoring). Measurements shall include an assessment of current background level of Benzene. The study shall be reported to the Agency in a format allowing comparison to previous studies. Should the study indicate that breaches of the tightening Air Quality Standards for Benzene (to 2010) are possible, then the operation of the Therminols plant shall be reviewed, providing a timetable for any improvements identified as representing BAT. | 1 <sup>st</sup> February 2005           |
| I.C. 17 | Having due regard to Agency guidance contained in M8 TGN, the Operator shall carry out and report to the Agency a fenceline monitoring study for Biphenyl at three agreed receptors. Should the study indicate that breaches of environmental action limits or odour thresholds are possible, then the operation of the Therminols plant shall be reviewed, providing a timetable for any improvements identified as representing BAT.  | 1 <sup>st</sup> February 2005           |
| I.C. 18 | The Operator shall submit a summary report to the agency giving details of pollutants in the surface water discharge W2 to the Estuary in terms of those species identified in Table 2.2.5 (COD, Hg, Cd, PCB, PCP, TCB). The data shall include sufficient statistics to allow limits and frequency in the aforementioned table to be re-appraised.   | 1 <sup>st</sup> April 2005              |
| I.C. 19 | The Operator shall provide a report to the Agency summarising the performance of the agglomeration plant following the successful introduction of the detergent product described in the letter to the Agency of 24/10/03. This report shall include as a minimum an assessment of particulate emissions.   | Within 1 month of introductory campaign |
| I.C. 20 | The Operator shall provide the Agency with a report following the successful installation and commissioning of Boiler 16. This report shall detail operating performance, including typical and maximum levels of NOx.  | 6 months after commissioning.           |
| I.C. 21 | The Operator shall submit a report reviewing further techniques and methods for prevention, minimisation, including segregation and treatment of aqueous streams for complex effluent, prior to discharge from the installation. The scope of this review shall be agreed with the Agency and shall have regard for section 2.2.2 in the Large Volume Sector Guidance Note IPPC S4.01 and Guidance for Speciality Organic Chemicals IPPC S4.02. It should provide a timetable for any improvements identified as representing BAT.  | 1 <sup>st</sup> May 2006                |

1.4.21.4.2 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.

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## 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 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 There are no off-site conditions

## 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 given in Section 6 pages 1-32; Section 7 white pages 1-76; Section 7 green pages 1-69; Section 8 pages 1, 10-15 and 26 of the application. | 31/03/03      |
| Schedule 4 Notice                 | Response to questions 1, 8 and 10  | 12/10/03      |

### 2.2.2 Emissions

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

- ~~2.2.1.1~~ 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.

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**Operating conditions**

**Table 2.2.1 : Emission points to air**

| <b>Emission point reference or description</b> | <b>Source</b><br>(Solutia vent reference number and previous IPC Authorisation Release Point) | <b>Location of emission point</b>                 |
|--|---|---|
| A1   | Boiler 12 stack (A1)  | Associated with Boilerhouse Plant                 |
| A2   | Boiler 14 stack (A2)  | Ditto   |
| A3   | Boiler 15 stack (A3)  | Ditto   |
| A4   | Boiler 16 stack (A4)  | Ditto   |
| A5   | DQ1T1701 Scrub water tank (A1)  | Associated with Dequest 2010 manufacturing Plant  |
| A6   | DQXT223 scrub water tank (A1)   | Associated with Dequest Amino manufacturing Plant |
| A7   | DQ1A150 PCl <sub>3</sub> storage (A3)   | Ditto   |
| A8   | DQXA258 day tank T257 (A4)  | Ditto   |
| A9   | DQXA500 recycle tank (A8)   | Ditto   |
| A10  | DQXA268 Day tank T267 (A16)   | Ditto   |
| A11  | SZXV307 Step-2/3 Reactor (A3)   | Associated with Santicizer manufacturing Plant    |
| A12  | SZXJ416 Stripper Ejector (A5)   | Ditto   |
| A13  | SZXT151 POC13 storage (A14)   | Ditto   |
| A14  | 3GXJ16 Reactor (A6)   | Associated with S2075 manufacturing Plant         |
| A15  | PPXT01 Benzene storage tank (A1)  | Associated with Therminol manufacturing Plant     |
| A16  | PPXT101 Benzene daytank (A2)  | Ditto   |
| A17  | PPXT206 Benzene Column Reflux Drum (A3)   | Ditto   |
| A18  | PPXT112 Biphenyl bulk storage (A4)  | Ditto   |
| A19  | PPXB121 Biphenyl flaker (A4)  | Ditto   |
| A20  | PPXT205 Biphenyl buffer tank (A5)   | Ditto   |
| A21  | PPXT208 Biphenyl melt tank (A5)   | Ditto   |
| A22  | PPXV121 Autoclave (A5)  | Ditto   |
| A23  | PPPYRO Pyrolysis furnace (A6)   | Ditto   |
| A24  | PPXZ104 Biphenyl column reboiler furnace (A6)   | Ditto   |
| A25  | PPXZ149 Santowax reboiler furnace (A6)  | Ditto   |

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

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Operating conditions

**Table 2.2.2 : Emission limits to air and monitoring**

| Emission point reference | Parameter  | Limit (including Reference Period) <sup>1</sup> | Monitoring frequency | Monitoring method |
|--------------------------|--|---|----------------------|-------------------|
| A1 <sup>Note 2</sup>     | Oxides of Nitrogen<br>Expressed as NO <sub>2</sub> | 650 mg/m <sup>3</sup>                           | Annual               | Spot sample       |
| A2                       | Oxides of Nitrogen<br>Expressed as NO <sub>2</sub> | 150 mg/m <sup>3</sup>                           | Annual               | Spot sample       |
| A3                       | Oxides of Nitrogen<br>Expressed as NO <sub>2</sub> | 450 mg/m <sup>3</sup>                           | Annual               | Spot sample       |
| A4 <sup>Note 3</sup>     | Oxides of Nitrogen<br>Expressed as NO <sub>2</sub> | 150 mg/m <sup>3</sup>                           | Biannual             | Spot sample       |
| A6                       | HCl  | 10 mg/m <sup>3</sup>                            | Annual               | Spot sample       |
| A6 <sup>Note 4</sup>     | Chloromethane                                      | -   | Quarterly            | Spot sample       |
| A12                      | Phenol   | 5 g/hr  | Quarterly            | Spot sample       |
| A12                      | Iso Decanol  | 50 g/hr   | Quarterly            | Spot sample       |
| A12                      | Iso Octanol  | 50 g/hr   | Quarterly            | Spot sample       |
| A15                      | Benzene  | 20g/hr  | Annual               | Spot sample       |
| A16                      | Benzene  | 100g/hr   | Annual               | Spot sample       |

Note 1: See Section 6 for reference conditions

Note 2: This limit shall apply until Boiler 12 is dismantled following the installation of Boiler 16.

Note 3: This limit shall apply once the installation of Boiler 16 is completed.

Note 4: Chloromethane measurements shall be taken annually from the four main Dequest Amino Grades, i.e. Dequest 2000; 2016; 2046 and 2060.

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**Operating conditions**

2.2.1.4.2.2.1.4 Total emissions to air in any year of a substance listed in Table 2.2.3 should not exceed the relevant limit in that Table.

**Table 2.2.3 Annual limits**

| Substance                       | Limit – kg |
|---------------------------------|------------|
| Oxides of nitrogen (from A1-A4) | 70000      |
| Oxides of sulphur (from A1-A4)  | 35000      |
| Chloromethane (from A6 )        | 42000      |
| Phenol (from A12)               | 50         |
| Benzene (from A15,A16 and A17)  | 800        |

2.2.1.4.2.2.1.5 There shall be no emission of visible smoke emitted from release points A1, A2 and A3 after 30 minutes of starting from cold, or outside of 5 minutes of changing fuel.

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

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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)

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

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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 situated at grid reference ST333855  | Process Effluent Streams, contaminated surface waters drainage, site sewage and cooling water blowdown. | Severn Estuary  |
| W2 situated at grid reference ST333854  | Surface Water drainage from the site.   | Severn Estuary  |

2.2.2.4 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.

2.2.2.5 No condition applies

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**Operating conditions**

**Table 2.2.5 : Emission limits to water and monitoring**

| Emission point reference          | Parameter                         | Weekly Mass Limit (or other as defined) | Concentration Limit | Monitoring frequency | Monitoring method                             |
|-----------------------------------|-----------------------------------|---|---------------------|----------------------|---|
| W1                                | Benzene                           | -                                       | -                   | Quarterly            | Spot Sample                                   |
| W1                                | Biphenyl                          | -                                       | -                   | Quarterly            | Spot Sample                                   |
| W1                                | Triphenyl                         | -                                       | -                   | Quarterly            | Spot Sample                                   |
| W1                                | Formaldehyde                      | -                                       | -                   | Monthly              | Spot Sample                                   |
| W1                                | Phenol                            | -                                       | -                   | Monthly              | Spot Sample                                   |
| W1                                | COD                               | 65000 kg                                | -                   | Weekly composite     | Weekly composite                              |
| W1 <sup>Note c</sup>              | Max volume of effluent discharged | 25000 m <sup>3</sup> /week              | -                   | Continuous           | Continuous                                    |
| W1                                | pH                                | 5 – 10                                  | -                   | Continuous           | Continuous                                    |
| W1                                | DTA                               | -                                       | -                   | Monthly              | Spot Sample                                   |
| W1 and W2<br><sup>Note a, b</sup> | Cadmium                           | 75 g                                    | -                   | Monthly              | Spot Sample                                   |
| W1 and W2<br><sup>Note a, b</sup> | Mercury                           | 27 g                                    | -                   | Weekly composite     | Weekly composite                              |
| W1 and W2<br><sup>Note a</sup>    | PCBs<br><sup>Note d</sup>         | 200 g                                   | -                   | Weekly composite     | Weekly composite                              |
| W1 and W2<br><sup>Note a</sup>    | PCP                               | 250 g                                   | -                   | Weekly composite     | Weekly composite                              |
| W1 and W2<br><sup>Note a</sup>    | TCB                               | 50 g                                    | -                   | Weekly composite     | Weekly composite                              |
| W1 and W2                         | Mercury                           | -                                       | 1.5 µg/l            | Monthly              | Spot Sample for W1<br>Weekly composite for W2 |
| W1 and W2                         | Cadmium                           | -                                       | 3.5 µg/l            | Monthly              | Spot Sample for W1<br>Weekly composite for W2 |
| W1 and W2                         | PCP                               | -                                       | 150 µg/l            | Monthly              | Spot Sample for W1<br>Weekly composite for W2 |
| W1 and W2                         | TCB                               | -                                       | 20 µg/l             | Monthly              | Spot Sample for W1<br>Weekly composite for W2 |
| W2                                | COD                               | 500 mg/l                                | -                   | Weekly composite     | Weekly composite                              |
| W2                                | pH                                | 6-9                                     | -                   | Continuous           | Continuous                                    |

Note a: These weekly limits apply to the total weekly emissions from the permitted installation via W1 and W2 together.

Note b: Releases of Mercury and Cadmium consist of releases from the PPC Installation (present as contaminants in raw materials used on site) and also those releases that are the result of historic land contamination.

Note c: Release of process effluent is currently excluded +/- 2hrs of low tide. This shall be increased to +/- 3hrs of low tide following completion of Improvement Condition 9 (Approval by EA of segregated surface water discharge).

Note d: See Section 6 for PCB definition.

~~2.2.2.6~~ 2.2.2.6 No condition applies

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### Emissions to sewer

2.2.2.7 No emission from the Permitted installation shall be made to sewer.

~~2.2.2.8~~ 2.2.2.8 No condition applies.

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~~2.2.2.9~~ 2.2.2.9 No condition applies.

2.2.2.10 No condition applies.

### Emissions relating to Dangerous Substance Directive

2.2.2.11 The Operator shall notify the Agency in writing if any known introduction or planned introduction or material change in respect of emissions from the Permitted Installation, to controlled waters, that may increase or introduce in to the emissions to controlled water any "dangerous substance" or any other substance considered by the Operator as having or likely to have a significant effect on the receiving waters (Severn Estuary receiving effluent from the Solutia Site outfall)

### ~~2.2.3~~ 2.2.3 Emissions to groundwater

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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~~ 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)).

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~~2.2.3.3~~ 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~~ 2.2.4 Fugitive emissions of substances to air

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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~~ 2.2.4.2 No condition applies.

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### **2.2.5.2.5 Fugitive emissions of substances to water and sewer**

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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~~ 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.

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### **2.2.6.2.6 Odour**

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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.

### **2.2.7.2.7 Emissions to Land**

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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 applies.

### **2.2.8.2.8 Equivalent Parameters or Technical Measures**

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2.2.8.1 No condition applies.

### **2.32.3 Management**

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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~~ 2.3.2 The Permitted Installation shall be supervised by staff who are suitably trained and fully conversant with the requirements of this Permit.

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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~~ 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.

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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~~ 2.3.7 The Operator shall maintain and implement written procedures for:

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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.

### **2.42.4 Efficient use of raw materials**

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~~2.4.12~~ 2.4.1 The Operator shall -

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~~2.4.1.1~~ 2.4.1.1 maintain the raw materials table or description as submitted in Section 2.4 of the Application and in particular consider on a periodic basis whether there are suitable alternative materials to reduce environmental impact;

**Operating conditions**

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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~~2.4.1.3 ensure that incoming water use is directly measured and recorded.

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## **2.5.2.5 Waste Storage and Handling**

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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.

## **2.6 Waste recovery or disposal**

2.6.1 Waste produced at the Permitted Installation shall be recycled or recovered unless technically and/or economically impracticable.

2.6.2 The Operator shall maintain the waste recovery or disposal table or description as submitted in 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.

## **2.7.2.7 Energy Efficiency**

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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

permitted 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.

## **2.82.8 Accident prevention and control**

- 2.8.1 The Operator shall maintain and implement when necessary the accident management plan submitted or described in 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.

## **2.92.9 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.

## **2.102.10 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 and 2.2.5, 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 No condition applies.

- ~~2.10.3~~ 2.10.3 No condition applies.

- 2.10.4 No condition applies.

- ~~2.10.5~~ 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.

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**Operating conditions**

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- 2.10.7 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme in condition 2.10.1 of this Permit 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.

## **2.11.11 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 permitted 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.

## **2.12.12 Multiple Operator installations**

- 2.12.1 This is not a multi-Operator installation

## **2.13.13 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~~ 2.13.2 No condition applies.

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### **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; and
  - 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.

## 4 Reporting

- 4.1.14.1.1 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 under condition 2.10, 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 S4.2 and S4.3 of Schedule 4, assessed at any frequency specified therein.
- 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 March 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 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.

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## 5 Notifications

~~5.1.45.1.1~~ 5.1.1 The Operator shall notify the Agency **without delay** of:-

- ~~5.1.45.1.1.1~~ 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.

~~5.1.25.1.2~~ 5.1.2 The Operator shall submit written confirmation to the Agency of any notification under condition 5.1.1, by sending:-

- ~~5.1.25.1.2.1~~ 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.

~~5.1.35.1.3~~ 5.1.3 The Operator shall give written notification as soon as practicable prior to any of the following:-

- ~~5.1.35.1.3.1~~ 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.

~~5.1.45.1.4~~ 5.1.4 The Operator shall notify the Agency, as soon as practicable, of any information concerning the state of the site which affects or updates that provided to the Agency as part of the Site Report submitted with the application for this Permit.

5.1.5 The Operator shall notify the following matters to the Agency in writing within 14 days of their occurrence:-

~~5.1.5.15.1.5.1~~ 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;

~~5.1.5.25.1.5.2~~ 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.

~~5.1.5.35.1.5.3~~ 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);

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**Notifications**

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- 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;

~~5.1.65~~ 5.1.65.1.6 Where the Operator has entered into a Climate Change Agreement with the Government, the Operator shall notify the Agency within one month of:-

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~~5.1.6.45~~ 5.1.6.45.1.6.1 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.

~~5.1.75~~ 5.1.75.1.7 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:-

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~~5.1.7.45~~ 5.1.7.45.1.7.1 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.

## 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.

*"dangerous substance"* means any substance as defined in List I and List II of the Dangerous Substances Directive 76/464/EEC and its daughter directives and the list of substances defined in the "non-statutory (Operational) Environmental Quality Standards" as updated by the Agency.

*"DTA"* means Direct Toxicity Assessment.

*"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.

*" $L_{Aeq,T}$ "* 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.

*"Monitoring Method"* shall mean the monitoring protocol as identified in the application or approved methods and standards to be agreed in writing with the Agency.

"*Quarterly*" for reporting/sampling means after/during each 3 month period, January to March; April to June; July to September and October to December and, when sampling, with at least 4 weeks between each sampling date.

"*PCB's*" means the sum of the 7 ICES congeners

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

"*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.

6.1.26.1.2 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.

6.1.36.1.3 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.

6.1.46.1.4 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.

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## 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<br>eg air /water | Best estimate of the quantity or<br>the rate of emission | Time during which the<br>emission took place |
|----------------------|------------------------|--|--|
|                      |                        |  |  |
|                      |                        |  |  |

|   |  |
|---|--|
| Measures taken, or intended to be taken, to stop the emission |  |
|---|--|

### 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 Solutia UK Ltd

## 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.

**Table S2: Reporting of monitoring data**

| Parameter   | Emission point | Reporting period | Period begins |
|---|----------------|------------------|---------------|
| Oxides of nitrogen<br>mg m <sup>-3</sup>          | A1- A4         | Every 12 mths    | 01/01/04      |
| Gaseous chlorides as<br>HCl<br>mg m <sup>-3</sup> | A6             | Every 12 mths    | 01/01/04      |
| Chloromethane<br>g/hr <sup>-1</sup>               | A6             | Every 12 mths    | 01/01/04      |
| Phenol<br>g/hr <sup>-1</sup>                      | A12            | Every 12 mths    | 01/01/04      |
| Iso Decanol<br>g/hr <sup>-1</sup>                 | A12            | Every 12 mths    | 01/01/04      |
| Iso Octanol<br>g/hr <sup>-1</sup>                 | A12            | Every 12 mths    | 01/01/04      |
| Benzene<br>g/hr <sup>-1</sup>                     | A15, A16       | Every 12 mths    | 01/01/04      |
| Cadmium<br>µg/l                                   | W1, W2         | Quarterly        | 01/01/04      |
| Mercury<br>µg/l                                   | W1, W2         | Quarterly        | 01/01/04      |
| PCBs<br>µg/l                                      | W1, W2         | Quarterly        | 01/01/04      |
| PCP<br>µg/l                                       | W1, W2         | Quarterly        | 01/01/04      |
| TCB<br>µg/l                                       | W1, W2         | Quarterly        | 01/01/04      |
| Mercury<br>g                                      | W1, W2         | Quarterly        | 01/01/04      |
| Cadmium<br>g                                      | W1, W2         | Quarterly        | 01/01/04      |
| PCP<br>g  | W1, W2         | Quarterly        | 01/01/04      |
| TCB<br>g  | W1, W2         | Quarterly        | 01/01/04      |
| COD<br>mg/l                                       | W1, W2         | Quarterly        | 01/01/04      |
| pH  | W1, W2         | Quarterly        | 01/01/04      |

Permit and introductory note: IPPC Regulations 2000/1973  
Schedule 2 - Reporting of monitoring data

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|                      |    |           |          |
|----------------------|----|-----------|----------|
| Phenol<br>mg/l       | W1 | Quarterly | 01/01/04 |
| Formaldehyde<br>mg/l | W1 | Quarterly | 01/01/04 |
| DTA                  | W1 | Quarterly | 01/01/04 |
| Benzene<br>mg/l      | W1 | Quarterly | 01/01/04 |
| Biphenyl<br>mg/l     | W1 | Quarterly | 01/01/04 |
| Triphenyl<br>mg/l    | W1 | Quarterly | 01/01/04 |

## Schedule 3 - Forms to be used

| <b>Table S3: Reporting Forms</b>   |                    |                     |
|------------------------------------|--------------------|---------------------|
| <b>Media / parameter</b>           | <b>Form Number</b> | <b>Date of Form</b> |
| Air                                | A1                 | 28/01/04            |
| Air (Annual Releases)              | A2                 | 28/01/04            |
| Water (emissions from ETP)         | W1                 | 28/01/04            |
| Water (emissions of surface water) | W2                 | 28/01/04            |
| Waste Return                       | R1                 | 28/01/04            |
| Water Usage                        | WU1                | 28/01/04            |
| Energy                             | E1                 | 28/01/04            |
| Performance Indicators             | P1                 | 28/01/04            |

## 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.

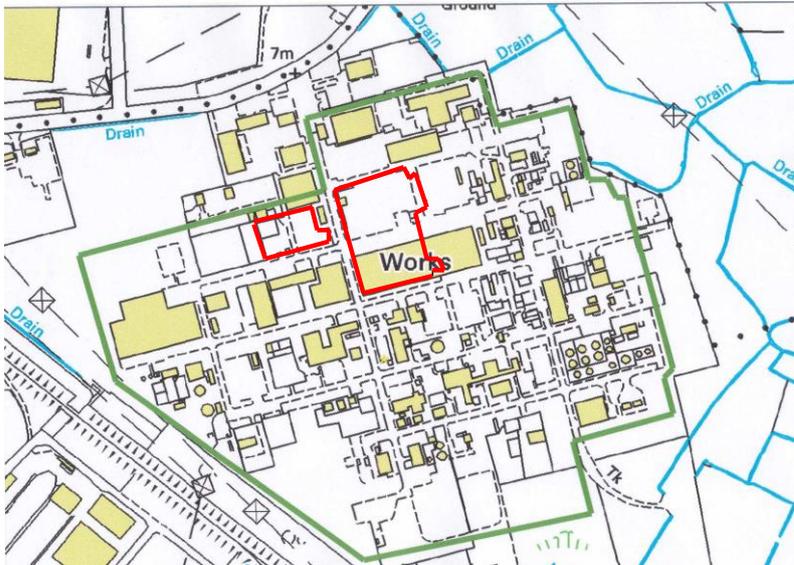
**Table S4.2: Annual Production**

|                         |            |
|-------------------------|------------|
| Production of Chemicals | x (tonnes) |
|-------------------------|------------|

**Table S4.3: Performance parameters**

|                   | <i>Frequency of assessment</i> | <i>Performance Indicator</i> |
|-------------------|--------------------------------|------------------------------|
| Effluent COD      | Monthly                        | COD kg/tonne product         |
| Effluent Toxicity | Monthly                        | Value of NOEC                |
| VOC               | Annual                         | Kg/tonne of product          |
| PCOP              | Annual                         | Value of PCOP                |

## Schedule 5 - Site Plan



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END OF PERMIT