PERMIT REFERENCE: PPC 084
Rohm and Haas Electronic Materials Europe Ltd

Pollution Prevention and Control Act 1999
Pollution Prevention and Control (England and Wales)
Regulations 2000 as amended

Process Address	Rohm and Haas Electronic Materials Eurpoe Ltd Herald Way Coventry CV3 2RQ
Process Type	Manufacture of Coating Materials
Current Operator	Rohm and Haas Electronic Materials Eurpoe Ltd Herald Way Coventry CV3 2RQ
Previous Operator	N/A
Date of Application	1st April 2004
Date Permit Issued	24th April 2004

POLLUTION PREVENTION & CONTROL (ENGLAND AND WALES) REGULATIONS 2000

DOCUMENT A : PERMIT

Rohm and Haas Electronic Materials Europe Ltd

Reference Number **PPC/084**

Coventry City Council ("the Council") in accordance with Section 10(2) of the Pollution Prevention & Control (England and Wales) Regulations 2000 ("The Regulations"), hereby permits:

Rohm and Haas Electronic Materials Europe Ltd

Whose registered office is:

Rohm and Haas Electronic Materials Europe Ltd
Herald Way
Coventry
CV3 2RQ

to operate a Part B installation involving a coating activity, as prescribed in Section 6.4 Part B of Schedule 1 to The Regulations, at:

Rohm and Haas Electronic Materials Europe Ltd
Herald Way
Coventry
CV3 2RQ

The permit is subject to the conditions specified in this document consisting of 18 pages and comprising documents A, B and C, plans PPC/084/A, (Site Location) PPC/084/B (Site plan) and Appendix 1.

Signed... [redacted]

Alan Bennett, Head of Environmental Health
A person authorised to sign on behalf of the Council

Dated ……24 April 2005……

SCOPE

The installation comprises not just any relevant unit carrying out a Part B activity listed in Schedule 1 to the Regulations, but also directly associated activities which have a technical connection with that activity and which could have an effect on pollution.

All pollutant concentrations shall be expressed at reference conditions of 273K and 101.3kPa, without correction for water vapour content.

Technical Guidance documents used in the preparation of this document:

- Secretary of States Guidance Note PG 6/44 (04) The Manufacture Of Coating Materials
- Secretary of State's Guidance – General Guidance Manual on Policy and Procedures for A2 and B installations. ISBN 0-85521-028-1

Date Annual Fee Required:	1st April of each financial year
Date For Full Compliance:	Date permit issued
Permit Prepared By:	Michelle Muller
Permit Checked By:	Phil Parkes

LEGISLATION

1. Pollution Prevention and Control Act 1999.
2. Pollution Prevention and Control Regulations 2000 as amended, schedule 1 as amended

BRIEF DESCRIPTION OF THE INSTALLATION REGULATED BY THIS PERMIT

Definitions referred to in this permit

- An **Activity** is an industrial activity forming part of an installation. Different types of activity are listed within Schedule 1 of the PPC Regulations and are broadly broken down into industrial sectors. Other "associated" activities may also form part of an installation.
- An **Installation** comprises not just any relevant unit carrying out a B activity listed within Schedule 1 to the PPC Regulations, but also directly associated activities which have a technical connection with a schedule 1 activity and which could have an effect on pollution.
- An **Operator** is the person (eg a company or individual) who has control over the operation of an installation.
- **Volatile organic compound (VOC)** shall mean any organic compound having at 293K a vapour pressure of 0.01 kPa or more, or having a corresponding volatility under the particular conditions of use.
- **Organic solvent** shall mean any VOC which is used alone or in combination with other agents, and without undergoing a chemical change, to dissolve raw materials, products or waste materials, or is used as a cleaning agent to dissolve contaminants, or as a dissolver, or as a dispersion medium, or as a viscosity adjuster, or as a surface tension adjuster, or a plasticiser, or as a preservative.
- **Halogenated organic solvent** shall mean an organic solvent which contains at least one atom of bromine, chlorine, fluorine or iodine per molecule.
- **Stack** includes structures and openings of any kind from or through which substances may be emitted to air.
- **Duct** includes enclosed structures through which gaseous substances may be conveyed.
- **Process vent** includes open terminations of ducts.
- **Emission source** shall mean an individual operation which generates the emission of a VOC for example, this would apply to an individual mixing vessel, storage tank, filling machine or cleaning operation.
- **Emission point** shall mean any exhaust, vent or stack to air. A number of individual emission sources may be contained and extracted to a single emission point.
- **Authorised Officer** shall mean an officer authorised to carry out duties under the Pollution Prevention and Control Act 1999 and subordinate regulations
- **Logbook** shall mean any electronic or paper means of storage of the required information as agreed by the regulator
- **Local Authority** shall mean Coventry City Council
- **"m"** means metre
- **"m/s"** means metres per second

The general location of the Authorised Process is marked in red and the installation boundary in green on the attached plan PPC/084/A page 17. The Installation activities are marked in red on the attached plan PPC/084/B page 18.

Description of Installation

This permit is for the manufacturing of resin and solvent based coating products for use in the production of micro electronic silicone chips, as prescribed in Schedule 1, Section 6.5 (B)(a)(i) of the Pollution Prevention and Control (England and Wales) Regulations 2000 (as amended) within the site and process boundaries, as shown on the attached plan marked PPC/084/B, where the site boundary is outlined in red and the installation boundaries are outlined in green. The process consists of the following stages:

1. The delivery and storage of organic chemicals in bulk, drums and cans.
2. The mixing of resins and organic solvents in blending vessels and lesser general mix tanks.
3. The bottling and packing of products.
4. The cleaning and purging of equipment using organic solvent
5. The storage of waste materials.

Coatings are manufactured using a batch process involving 4 main components: resins, pigments, carriers and additives, which are mixed at ambient temperatures. The raw materials or semi-finished components ("intermediates") are dispensed into mixing vessels, blended and filled into the supply package.

Liquid raw materials are delivered in varying sizes of containers, which are stored in contained designated storage areas. Bulk Propylene Glycol Monomethyl Ether Acetate (PGMEA) (known as "Surf") is delivered by road tanker and stored in a large stainless steel tank within a fully enclosed, bund. PGMEA is piped via a ring main system to dispensing locations inside the manufacturing plant. The charging of blending vessels direct from the PGMEA tank and manually from drums occurs in the "Upper Organic" manufacturing area.

Products are nominally manufactured entirely in one piece of equipment using variable high-speed agitators. Immediately prior to filling, a batch may require the addition of specific components or adjustment of viscosity. Such additions are made under slow speed stirring.

The product is then filtered to remove any oversize or un-dispersed particulate material, and then transferred into appropriately sized containers. These procedures occur in the "Lower Organic" manufacturing area and the organic packing area.

Cleaning of process equipment such as fixed blending vessels, pipework, pumps and filters with organic solvent is a necessary stage in the manufacturing process. Static pieces of equipment are cleaned in situ, using spray heads and non-static pieces, such as piping and filters can be removed and cleaned in dedicated wash stations, which are located in the "Upper Organic" and "Lower Organic" manufacturing areas and are connected to local exhaust ventilation. Process equipment that is mobile such as portable tanks are cleaned in the same way as fixed blending vessels – i.e. manually using spray heads with organic solvent.

Wastes generated directly from the manufacturing process include:

- Waste packaging from pre-assembly and premixing
- Waste packaging, liquid samples from quality control, spent equipment cleaning solvents from dispersing, product finishing and blending
- Dirty filters and packaging from product filling.

Table 1

List of Process Areas within the Installation and Associated Emission Points, Pollutants of Concern and Abatement Plant Required

Row Number	Area / Machinery Identification	Pollutants Emitted	Emission Limit in Permit	Abatement Plant Required
1	Stack A and production areas	VOCs	1kg in any 8-hour period on an aggregate basis. OR 150 mg/Nm^3 expressed as total carbon excluding particulate matter	None
2	Stack A and production areas	Particulates	No visible emissions	

DOCUMENT B

CONDITIONS

All conditions shall have immediate effect unless stated otherwise.

1.0 EMISSION LIMITS AND CONTROLS

1.1 All emissions to air (including fugitive emissions) shall be free from persistent visible emissions and free from droplets, other than steam or condensed water vapour.

1.2 All emissions to air (including fugitive emissions) from the plant shall be free from offensive odour (as perceived by the local authority inspector) outside the site boundary outlined in red on the attached plan numbered PPC/084/A. The use of odour masking agents and / or counteractants shall not be permitted.

1.3 There shall be no visible emissions of particulate matter noticeable beyond the site boundary outlined in red on the attached plan numbered PPC/084/A.

1.4 All emissions to air (including fugitive emissions) from combustion processes shall be free from visible smoke during normal operations and in any case emissions shall not exceed the equivalent of Ringelmann Shade 1 as described in British Standard BS 2742: 1969.

1.5 Volatile organic compounds released as a consequence of production activities shall be captured by effective local extract ventilation and linked via ductwork to a single emission stack, marked "A" on the attached plan numbered PPC/084/B.

1.6 The mass emission of volatile organic compounds from any contained emission point shall not exceed 1kg in any 8-hour period on an aggregate basis. If compliance cannot be achieved then the operator shall meet the conditions of clause 1.7.

1.7 The emission of volatile organic compounds from any contained emission point shall not exceed 150 mg/Nm^3 expressed as total carbon excluding particulate matter, as an 8 hour mean.

1.8 Clauses 1.6 and 1.7 apply only prior to the transfer to the Solvent Emissions Regulations on 31st October 2007, the requirements of which are detailed in Section 6 of this permit. If the operator wishes to transfer to the conditions in Section 6 prior to 31st October 2007 then they shall notify this Authority.

1.9 The reference conditions for the limits in clauses 1.6 and 1.7 are 273.15K, 101.3Kpa, without correction for water vapour.

1.10 The introduction of dilution air to achieve the emission concentration limits in Clauses 1.6 and 1.7 is not permitted. Exhaust flow rates should be consistent with the efficient capture of emissions.

1.11 The use of gas oil as a fuel in the process is only permitted if the sulphur content of the fuel is 0.2%, and 0.1% by 1st January 2008.

2.0 MONITORING, SAMPLING AND MEASUREMENT OF EMISSIONS

2.1 In order to demonstrate compliance with clauses 1.6 or 1.7, emissions of volatile organic compounds from all emission points shall be undertaken every 12 months using the continuous flame ionisation detection method EN13526.

2.2 The operator shall ensure that adequate facilities are provided for sampling of stacks and ducts, and sampling points comply with EN 13526.

2.3 At least seven days prior to the emissions monitoring taking place to demonstrate compliance with clauses 1.6 or 1.7 the operator shall notify the local authority of the provisional date and time of monitoring, the pollutants to be tested for and the methods to be used.

2.4 Monitoring to demonstrate compliance with clauses 1.6 or 1.7 shall not take place without prior approval from this authority.

2.5 The results of the emissions monitoring required by clause 2.1 shall be submitted to the local authority in writing within 8 weeks of the monitoring taking place.

2.6 Adverse results from any monitoring activity shall be investigated by the operator as soon as the monitoring data has been obtained / received. The cause shall be identified, and this, along with any corrective action taken shall be recorded in the site logbook described in clause 2.7.

2.7 The operator shall keep records of inspections, tests and monitoring, including all non-continuous monitoring, inspections and visual assessments. The records shall be kept on site by the operator for at least two years and made available for the regulator to examine. This shall be known as the site logbook.

2.8 A determination of the organic solvent consumption, the total mass of organic solvent inputs minus any solvents sent for reuse / recovery off site, shall be made and submitted to the local Authority every 12 months in the form of a mass balance preferably to coincide with the operators stock taking requirements. This shall be in order to determine the annual actual consumption of organic solvent.

2.9 A solvent management plan shall be used to determine the consumption, actual solvent emission, fugitive emission and total emission by using a method such as the British Coatings Federation VOC workbook method. The organic solvent consumption data gathered for clause 2.8 above shall be used to aid its construction. The solvent management plan shall be submitted to the Local Authority every twelve months.

3.0 OPERATIONAL CONTROLS

3.1 All potentially odorous waste materials shall be stored in suitable closed containers or bulk storage vessels, where appropriate vented to suitable abatement plant.

3.2 Bulk Propylene Glycol Monomethyl Ether Acetate (PGMEA) (known as "Surf") shall be supplied via bulk tanker. Off loading shall only take place when effective back venting of displaced vapour between the tank and tanker is ensured.

3.3 The bulk PGMEA storage tank shall only be refilled under constant supervision by suitably trained personnel.

3.4 Delivery connections to bulk storage tanks shall be located within the bunded area marked "PGMEA unloading equipment / area" on the attached plan marked PPC/084/B and shall be locked when not in use. This area shall incorporate the $30m^3$ underground emergency spill tank.

3.5 PGMEA shall be stored within the stainless steel tank of 25,000 litre capacity. The tank shall be completely surrounded by a bund that is impervious and resistant to the PGMEA and which has a capacity of 27,500 litres.

3.6 The PGMEA bulk storage tank shall be fitted with an ultrasonic level sensor that if activated triggers an audible and visual high-level alarm at the offloading area.

3.7 Nitrogen shall be continuously pumped into the headspace of the PGMEA bulk storage tank.

3.8 The PGMEA bulk storage tank shall not be vented to atmosphere except in an emergency via the bursting disc and flame trap. In the event of such an emergency the operator shall notify this Local Authority immediately, and shall take the necessary remedial action. The incident, including the remedial action taken shall be recorded in the site logbook outlined in clause 2.7.

3.9 The bursting disc and flame trap fitted to the PGMEA bulk storage tank shall be inspected for wear, damage and correct working order every 12 months, and repaired or replaced as necessary. Records of the inspections shall be kept for a minimum of 2 years and shall detail any faults noted and the remedial action taken. The records shall be made available to the Local Authority Inspector on request.

3.10 All process vessels shall be fully enclosed when blending / mixing to minimise VOC emissions, the exception being when charging, or sampling when the vessel portholes are opened.

3.11 Emissions from the emptying of mixing vessels and transfer of materials shall be contained by the use of closed transfer systems.

3.12 Solvents other than PGMEA shall be stored on site in sealed drums, within the site's flammable material storage and cold storage areas identified on the enclosed plan marked PPC/084/B. This shall also apply to containers containing waste solvent.

3.13 All organic solvents used in the process shall be delivered to the batch mixing area either by direct delivery or transfer in sealed drums using fork-lift trucks.

3.14 The dispension of cleaning solvents shall be from a contained device when applied directly (in the case of fixed manufacturing equipment) or dispensed by piston type dispenser or similar contained device when used to clean non-static equipment such as filters and piping.

3.15 Where equipment is cleaned off-line, cleaning shall be carried out using enclosed cleaning systems. These shall be sealed to prevent emissions whilst in operation, except during purging at the end of the cleaning cycle. If this is not possible, emissions shall be contained and vented to abatement plant where necessary

3.16 During the cleaning of all mixing vessels with organic solvents the vessels shall remain closed and shall not be extracted to atmosphere (clean in place system).

3.17 Cleaning operations involving organic solvents shall be reviewed at least one every two years, to identify opportunities for reducing volatile organic compound emissions. The results of the review shall be submitted to the local authority in writing within 8 weeks of it taking place.

3.18 The amount of residual organic solvent bearing material left in drums and other containers shall be minimised. Prior to disposal, empty containers and drums that have contained organic solvents shall be closed to minimise emissions.

3.19 Suitable organic solvent containment and spillage equipment shall be readily available in all organic solvent handling areas.

3.20 Any spillage of solvent from drums or direct line delivery shall be cleaned up as soon as practicable utilising foam and vacuum methods. Any leakage from delivery lines shall be repaired as soon as possible.

3.21 All appropriate precautions must be taken to minimise emissions during start-up and shutdown.

4.0 STACKS, DUCTS AND PROCESS VENTS

4.1 The efflux velocity of gases discharged through any stack or duct shall be adequate to ensure the dispersal of pollutants from the stack.

4.2 All process ductwork shall be inspected for wear, damage and leakage every 12 months. Inspection records shall be kept for a minimum of 2 years and shall detail the location of the ductwork inspected, any fault noted and the remedial action taken. The records shall be made available to the Local Authority Inspector on request.

4.3 Flues and ductwork shall be cleaned to prevent accumulation of materials, as part of the routine maintenance programme.

5.0 GENERAL OPERATIONS

5.1 The operator shall undertake regular cleaning and preventative maintenance including inspection and repair/replacement on all plant and equipment concerned with the emission, capture, transport and control of emissions to atmosphere. Where necessary manufacturers guidelines shall be used to determine the regularity of maintenance. Records of preventative maintenance including inspections and any works undertaken shall be kept on site and made available to the local authority inspector on request.

5.2 Spares and consumables for plant and equipment used in the installation in particular that subject to continual use or wear shall be held on site or shall be available at short notice. Such plant or equipment shall not be used unless that plant or equipment is capable of working in accordance with the conditions of this permit.

5.3 Staff at all levels shall receive the necessary training and instruction in their duties relating to control of the activities and emissions to air. Records shall be kept which details all relevant training provided to staff, and these records shall be kept for a minimum of 2 years.

5.4 Any malfunction of plant or spillage of solvent-based materials shall be remedied as soon as possible and process operations altered whilst the necessary work is undertaken.

5.5 Any incident likely to give rise to adverse atmospheric emissions or emissions that may have an impact on the local community shall be notified to the local authority immediately, and the details of incident including remedial action taken recorded in the process log book.

5.6 In cases of non-compliance causing immediate danger to human health, operation of the activity shall be suspended. All of the following criteria shall be taken into account:

- The toxicity and amount of the substances being released
- The location of the installation; and
- The sensitivity of the receptors

5.7 The operator shall make available on demand and without charge any of the records required to be kept by this permit.

5.8 If there is any intention to change any aspect of the prescribed installation from the description contained in the beginning of this permit, or any other aspect which may affect the substances or concentration or amount of substances being emitted to atmosphere, the operator shall notify the regulator of the proposed changes at least 4 weeks in advance before the changes take place.

5.9 A high standard of house keeping shall be maintained.

6.0 COMPLIANCE WITH SOLVENT EMISSIONS REGULATIONS

6.1 The operator shall identify

- Products or materials that are/contain risk phrased substances/materials R45, R46, R49, R60 and R61

- Products or materials that are / contain Hologenated VOCs with the risk phrase R40

  and formulate and implement a timetable to replace, control and limit designated risk phrase materials as soon as possible, as defined and agreed by the Local Authority.

6.2 The operator shall demonstrate compliance with the Solvent Emissions (England & Wales) Regulations 2004 by the following method:

By 31st October 2007 achieve the following total emission limits, where the total emission from the activity is equal to or less than the following Total Emission Limit Value, where the total emission is calculated as the mass or organic solvent release in the waste gases plus the fugitive releases

Solvent consumption	**Total Emission Limit**
>100 tonnes and <1000 tonnes	5% of organic solvent input
>1000 tonnes	3% of organic solvent input

The organic solvent input is equal to the quantity of organic solvent purchased and used in the process plus the quantity of organic solvents recovered and reused as organic solvent input into the process as determined by the solvent management plan

No result shall exceed the emission limit except where either:

a) data is obtained over at least five sampling hours in increments of 30-minutes or less; or

b) at least twenty results are obtained where sampling increments of more than 30-minutes are involved .

Compliance can be demonstrated by the completion and submission of the VOC workbook supplied by the British Coatings Federation.

DOCUMENT C

RESIDUAL DUTY

In relation to any aspect of the process not regulated by specific conditions in this permit, then Best Available Techniques shall be used:

For the purposes of the Pollution Prevention and Control (England and Wales) Regulations 2000, "best available techniques" means the most effective and advanced stage in the development of activities and their methods of operation which indicates the practical suitability of particular techniques for providing in principle the basis for emission limit values designed to prevent and, where practicable, generally to reduce emissions and the impact on the environment as a whole; and for the purpose of this definition –

a) "available techniques" means those techniques which have been developed on a scale which allows implementation in the relevant industrial sector, in the 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;

b) "best" means, in relation to techniques, the most effective in achieving a high general level of protection of the environment as a whole;

c) "techniques" includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned.

SUPPLEMENTARY NOTES

These notes do not comprise part of the Permit PPC/084 but contain guidance relevant to the Permit.

Inspections and Powers of Entry

Regular inspections will be carried out by officers of the Council (the Local Authority Inspectors)to check and ensure full compliance with the Permit conditions and residual duties. These inspections may be carried out without prior notice.

Under section 108(6) of the Environment Act 1995 authorised Local Authority Inspectors have been granted powers of entry into any premises for the purposes of discharging relevant duties.

Reviews

The Local Authority has a statutory duty to review the permit at least once every 6 years or in the following circumstances set out in regulation 15 of the Pollution Prevention and Control regulations 2000:

a) The pollution from the installation is of such significance that the existing emission limit values for the permit need to be revised or new emission limit values need to be included in the permit
b) Substantial changes in BAT make it possible to reduce emissions from he installation or mobile plant significantly without imposing excessive costs; or
c) Operational safety of the activities carried out in the installation or mobile plant requires other techniques to be used

Health and Safety

This Permit is given in relation to the requirements of the Pollution Prevention and Control (England and Wales) Regulations 2000. It must not be taken to replace any workplace responsibilities the operator has under Health & Safety legislation. Whenever emission limits quoted in this Permit conflict with occupational exposure limits set under the Health and Safety at Work Act 1974 to secure the health, safety or welfare of persons at work, the tighter limit should prevail.

Installation must be operated in order to protect persons at work as well as the environment. In achieving conditions in this Permit the operator must not adopt any course of action that would put at risk the health, safety or welfare of persons at work.

Other Statutory Requirements

This Permit does not detract from any other statutory requirement, such as the need to obtain planning permission, hazardous substances consent, discharge consent from the Environment Agency, building regulations approval, or a waste disposal licence.

This Permit does not authorise a contravention of any other enactment or any order made, granted or issued under any enactment, nor does it authorise a contravention of any rule or breach of any agreement.

The Operator is advised to consult the relevant Planning Department regarding changes that may be required as a result of this Permit (e.g. stack heights) as they may require planning permission.

Transfer of Permits

Where the operator of an installation wishes to transfer, in whole or in part, his permit to another person, the operator and the proposed transferee shall jointly make an application to the regulator to effect the transfer. Such an application shall be accompanied by the permit and any fee prescribed in respect of the transfer.

In the case of partial transfer, where the original operator retains part of the permit, the application must make clear who will retain control over the various parts of the installation. The application must include a plan identifying which parts of the site and which activities the operator proposes transferring.

The local authority will then determine whether to allow the transfer within a two-month period, unless the local authority and the applicants agree a longer period. Where the local authority approves the transfer, the transfer will take effect from the date requested by the operator or a date that may be agreed by the local authority and the applicants.

Variation to Permits

Variation to permits may be initiated either by the local authority or the operator, either in response to changes in the operation of an installation or if new conditions are needed to deal with new matters. Variations may be required in response to the following.

- Change of operation of the installation. (The operator shall notify the local authority under Section 16(1) of the Regulations.)
- In response to the findings of a periodic review of conditions.
- In response to the findings of an inspection.
- New or revised sector guidance notes

The operator should apply to the Local Authority in order to vary a permit under regulation 17 of the Regulations. The application must be in writing and, in accordance with Part 1 of Schedule 7 to the Regulations contain:

- The name, address and telephone number of the operator.
- The address of the installation.
- A correspondence address.
- A description of the proposed changes.
- An indication of the variations the operator would like to make.
- Any other information the operator wants the authority take account of.

Substantial Change

A substantial change means, in relation to an installation, a change in operation, which in the opinion of the local authority may have significant negative effects on human beings or the environment.

Where the local authority deems that a proposed variation constitutes a substantial change, the operator will be informed of the process to follow.

Noise

This Permit does not include reference to noise. Statutory noise nuisance is regulated separately under the provisions of Part III of the 1990 Act.

Commercial Confidentiality

Information supplied must be placed on the public register unless an exclusion has been granted on the grounds of commercial confidentiality or national security. The construction of inventories of materials consumed and disposed of may involve the identification of individual organic solvents or solids which may give rise to an issue of commercial confidentiality. Any operator who seeks to have information kept from the public register

must make an application to the local authority, providing a clear justification for each item concerned.

Appeals

An Appeal can be made against the conditions in, or variations to this Permit as per Part IV of the Regulations. Appeals are made to the Planning Inspectorate who acts on behalf of the Secretary of State. Appeals against conditions within a Permit must be submitted within 6 months of the date of issue of the permit. Appeals against variation notices must be submitted within 2 months of the date of issue of the notice. Appeals should be despatched on the day they are dated and sent to:

The Planning Inspectorate
Environmental Appeals Administration
Room 4/19 – Eagle Wing
Temple Quay House
2 The Square
Temple Quay
BRISTOL
BS1 6PN

HMSO Publications

All HMSO publications can be ordered by telephone on Tel: 0870 600 5522,
Fax: 0870 600 5533 or e-mail: book.orders@tso.co.uk

Emission Monitoring Protocol

The documented procedure by which reliable and comparable results are obtained from measurements at source is known as a Protocol.

Protocols ensure that the sampling procedures are carried out correctly and that the results obtained accurately characterise the process.

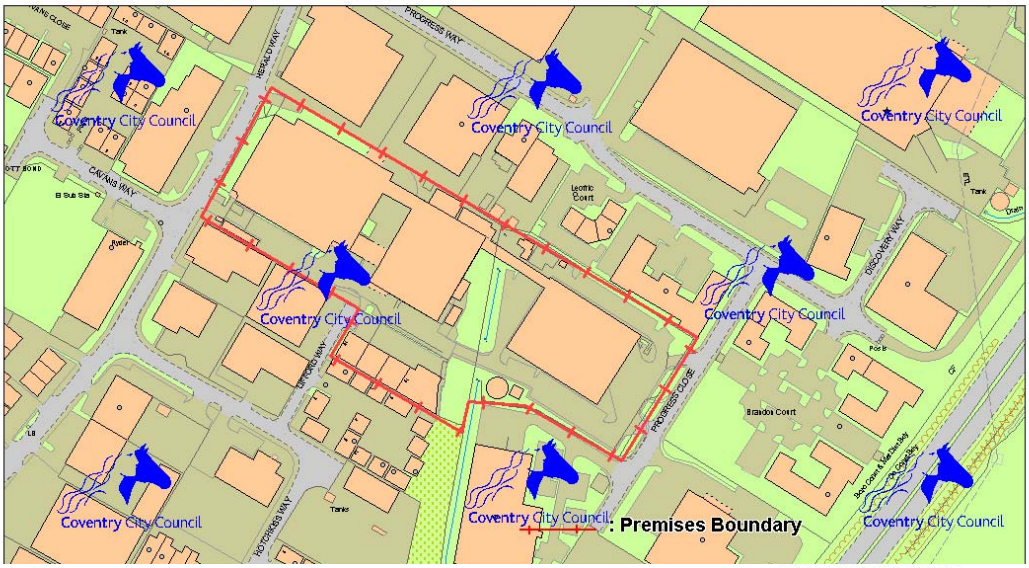
The main components of a Protocol are as follows:-

1. Calibre and quality of the sampling team.
2. A reference measurement method (standard methods may not always be available)
3. A standard methodology setting out:

- health and safety considerations
- pollutants of interest
- plant operating conditions required
- selection and location of sampling position
- sampling characteristics (e.g. isokinetic etc) and techniques
- sampling frequency
- sampling duration
- number of samples
- type (including make and model), condition and suitability of sampling equipment
- required accuracy
- variability of emissions
- analytical methods including laboratory competence and NAMAS accreditation certificate copy for each pollutant of interest
- analytical precision

- procedures to be adopted if standard methods unavailable
- calibration certificate(s) for sampling equipment
- Quality Control and Quality Assurance procedures
- Presentation of results and associated information.

Plan PPC/084/A Premises Boundary of Rohm and Haas Electronic Materials Europe Ltd



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