



The Pollution Prevention and Control Act 1999

The Environmental Permitting (England and Wales) Regulations 2016

Environmental Permit

**To operate a Part A(2) Surface Treatment Using Organic Solvents
Activity**

Severfield (UK) Ltd
Dalton Airfield Industrial Estate
Dalton, Thirsk
North Yorkshire
YO7 3JN

Permit Reference No. A201/V2

Emergency Contact Number
01609 779977

The Director of Leisure and Environment, for, and on behalf of Hambleton District Council hereby permits:

Severfield (UK) Ltd
Dalton Airfield Industrial Estate
Dalton, Thirsk
North Yorkshire
YO7 3JN
(hereinafter called the operator)

the operator to carry out a surface treatment using organic solvents activity, being an activity defined under Schedule 1 of the Environmental Permitting Regulations 2016, made under the Pollution Prevention and Control Act 1999 at Severfield (UK) Ltd, Dalton Airfield Industrial Estate, Dalton, Thirsk, North Yorkshire YO7 3JN as described below and in accordance with the following permit conditions.

PERMIT CONDITIONS

Releases to Air – Emission Limits

Table 1 – Non VOC Emission Limits

Substance	Source	Emission Limit	Type of monitoring	Monitoring frequency
Particulate Matter	Paint Spraying Activities	50mg/m ³	Manual extractive testing to BS ISO 9096: 2003	3 years
Visible and odour emissions	Visible and odour emissions from contained and fugitive sources	Aim that any location at or beyond the site boundary is free from offensive odour.	Visual and olfactory assessment.	Daily

Monitoring and Reporting of Emissions to Air

1. Visual assessment of releases (procedure EP02) shall be undertaken at least once every day to ensure that all final releases are colourless, free from persistent visible emissions and free from droplets. The results of the assessment shall be recorded along with the date, wind direction, and person carrying out the check.
2. Monitoring shall be carried out to determine compliance with the emission limits set out in Table 1. No result shall exceed the emission concentration limits specified, except where either:
 - (a) data is obtained over at least 5 sampling hours in increments of 15 minutes or less; or
 - (b) at least 20 results are obtained where sampling time increments of more than 15 minute are involved; AND in the case of (a) or (b)
 - (c) no daily mean of all 15-minute mean emission concentrations shall exceed the specified emission concentration limits during normal operation (excluding start-up and shut-down); and
 - (d) no 15-minute mean emission concentration shall exceed twice the specified emission concentration limits during normal operation (excluding start-up and shut-down)

3. The results of all audits, inspections, tests and compliance monitoring, including all non-continuous monitoring, inspections and visual assessments shall be:
 - kept on site and be made available for the regulator to examine
 - kept by the operator for at least two years.
4. Care is needed in the design and location of sampling systems in order to obtain representative samples for all release points:
 - sampling points on new plant shall be designed to comply with the British or equivalent standards. e.g. BS ISO 9096:2003, BS EN 13284-1 or BS ISO 12141:2002 for sampling particulate matter in stacks
 - the operator shall ensure that adequate facilities for sampling are provided on stacks or ducts
 - where monitoring is not in accordance with the main procedural requirements of the relevant standard, deviations shall be reported as well as an estimation of any error invoked.
5. Exhaust flow rates of waste gases shall be consistent with the efficient capture of emissions, good operating practice and meeting the requirements of the legislation relating to the workplace environment.
6. The introduction of dilution air to achieve emission concentration limits shall not be permitted.
7. The operator shall notify the regulator at least 7 days before any periodic monitoring exercise to determine compliance with emission limit values. The operator shall state the provisional time and date of monitoring, pollutants to be tested and the methods to be used.
8. The results of non-continuous paint spraying emission testing shall be forwarded to the regulator within 8 weeks of the completion of the sampling.
9. Adverse results from **any** monitoring activity (both continuous and non-continuous) shall be investigated immediately. The operator shall ensure that:
 - the cause has been identified and corrective action taken
 - as much detail as possible is recorded regarding the cause and extent of the problem and the action taken to rectify the situation
 - re-testing to demonstrate compliance is carried out as soon as possible, and
 - the regulator is notified.
10. In the case of abnormal emissions, malfunction or breakdown leading to abnormal emissions:
 - investigation and remedial action shall be undertaken immediately
 - the process or activity shall be adjusted to minimise those emissions; and
 - the events and actions taken shall be promptly recorded
 - in the case of non-compliance causing immediate danger to human health, operation of the activity shall be suspended.
11. The regulator shall be informed without delay:
 - if there is an emission that is likely to have an effect on the local community; or
 - in the event of the failure of key abatement plant, for example, bag filtration plant or scrubber units

Solvent Emissions Directive (SED) Requirements

12. The operator shall use the Reduction Scheme to achieve emission reductions to a ‘Target Emission’ equivalent to those, which would have been achieved if the concentration emission limits, had been applied.
13. The operator shall submit a Solvent Management Plan (SMP) to the Regulator on an annual basis. The SMP shall contain the information specified in the Defra Sector Guidance Note IPPC SG6 (March 2008) for determining compliance with the requirements of the SED and the Reduction Scheme.
14. The operator shall determine the Target Emission from the total mass of solids in the quantity of coating consumed in any 12 month period multiplied by the factor in Table 2 below:

Table 2 –VOC Emission Limits

Quantity of Solvent Used per annum	Target Emission Value
More than 5 tonnes	Total mass of solids x 0.37

15. The operator shall determine the Annual Actual Solvent Emission from the Solvent Management Plan. The annual actual solvent emission is:
Annual actual solvent emission = I₁-O₈-O₇-O₆ (see Definitions in Appendix 1)
16. Compliance with the Reduction Scheme shall be demonstrated if the annual actual solvent emission determined from the Solvent Management Plan is less than or equal to the Target Emission.
17. The operator shall keep records relating to solvent usage and the SED at the installation for a period of at least 2 years. The records shall be made available to the regulator upon request.

Vents and Stacks

The operator shall:

18. Ensure that vent and stack heights are sufficient to ensure adequate dispersion under all normal operating conditions.
19. Ensure that the minimum vent height is 3 metres above roof height of any building within a distance of 5 times the uncorrected vent height and in no circumstances shall it be less than 8 metres above ground level.
20. Investigate the cause and nature of any persistent visible emissions and provide a report to the regulator.
21. Ensure that flues and ductwork are cleaned to prevent accumulation of materials, as part of the routine maintenance programme.
22. Ensure that exhaust gases discharged through a stack achieve an exit velocity greater than 15 m/sec during normal operating conditions to achieve adequate dispersion. Exit velocities may be recorded during stack testing exercises.
23. Ensure that stacks are not fitted with any restriction at the final opening such as a plate, cap or cowl, with the exception of a cone which may be necessary to increase the exit velocity of the emissions.

Point Source Emissions to Surface Water, Sewer and Groundwater

24. There shall be no point source emissions to surface water, sewer or groundwater.

Fugitive Emissions to Surface Water, Sewer and Groundwater

The operator shall ensure that:

25. All emissions are controlled to avoid a breach of water quality standards.
26. Run-off from the installation shall be controlled and managed and where necessary (given the nature of the run-off) treated before discharge in a suitable effluent treatment plant.
27. Procedures for dealing with discharges, leaks and spills from tanks shall be in place and made available to the regulator upon request.
28. For **surfacing**, the operator shall:
 - ensure that all operational areas are equipped with an impervious surface, spill containment kerbs and spill containment kits, and shall follow the requirements of the spill procedure.
 - keep records of the design and condition of the surfacing of all operational areas – relevant information may include, as appropriate, capacities, thicknesses, falls, material, permeability, strength/reinforcement, and resistance to chemical attack.
 - have an inspection and maintenance programme of impervious surfaces and containment kerbs
29. The three **interceptors** at the site shall be:
 - impermeable
 - subject to visual inspection and any contamination removed monthly
30. The operator shall ensure that all fuel tanks are contained by bunding. The operator shall ensure that the bunds:
 - are impermeable and resistant to the stored materials
 - have no outlet (that is, no drains or taps) and drain to a blind collection point
 - are designed to catch leaks from tanks or fittings
 - shall be at least 110% of the largest tank
 - are visually inspected weekly
31. Storage areas and containers shall be designed and operated to minimise the risk of fugitive release to surface water, sewer and groundwater, in particular:
 - storage areas shall be located away from watercourses and shall be protected against vandalism
 - the maximum storage capacity of storage areas shall be stated and not exceeded
 - the maximum storage period for containers shall be specified in a written procedure
 - storage areas shall be inspected at least once a week to check for signs of leakage or potential leakage, and in accordance with the requirements of the written procedure.

Operations and Maintenance

32. Effective operational and maintenance systems shall be employed on all aspects of the installation whose failure could impact on the environment, in particular there shall be:
- a documented preventative maintenance schedule, covering all plant whose failure could lead to impact on the environment, including major 'non productive' items such as tanks, pipework, retaining walls, bunds, ducts and filters; this shall be reviewed and updated annually
33. The regulator shall be provided with a list of key process equipment and abatement equipment for total particulate matter emissions. Such equipment shall be provided with alarms or other warning systems which indicate equipment malfunction or breakdown. Working practices shall incorporate the checking of these systems and the operator shall record these checks on a computerised maintenance database.
34. Essential spares and consumables shall be held on site or be available at short notice from suppliers, so that plant breakdown can be rectified rapidly.
35. Records of breakdowns shall be kept and analysed by the operator in order to eliminate common failure modes.

Competence and Training

36. Training systems, covering the following items, shall be in place for all relevant staff and conducted every 6 months:
- awareness of the regulatory implications of the permit
 - awareness of all potential environmental impacts under normal and abnormal circumstances
 - awareness of the procedures for dealing with a breach of permit conditions
 - prevention of accidental emissions and action to be taken when accidental emissions occur
 - awareness of all operation procedures, including start up and shut down of machinery and abatement plant.
37. The potential environmental risks posed by the work of contractors shall be assessed and instructions provided to contractors about protecting the environment while working on site.

Waste Handling

38. The operator shall:
- record the quantity, nature, origin and where relevant, the destination, frequency of collection, mode of transport and treatment method of any waste which is disposed of or recovered
 - ensure that waste storage areas are clearly marked and signed
 - ensure that appropriate storage facilities are provided for substances that are flammable, sensitive to heat or light etc, and that incompatible waste types are kept separate
 - ensure that containers are stored with lids, caps and valves secured and in place (this also applies to emptied containers)
 - ensure that procedures are in place to deal with damaged or leaking containers
 - segregate waste wherever practicable
 - identify the disposal route for all waste, which shall be as close to the point of production as possible.

39. Dust from the shot blast shall be collected in robust bags that can be disposed of directly.
40. All reasonably practicable efforts shall be made to minimise the amount of residual organic solvent bearing material left in drums and other containers after use. All organic solvent contaminated waste shall be stored within closed containers.
41. The operator shall carry out a waste minimisation audit annually. The methodology used and an action plan for optimising the use of raw materials shall be submitted to the regulator within 2 months of completion of the audit.

Energy Use

42. The operator shall produce a report annually on the energy consumption of the installation.
43. The operator shall monitor energy flows and target areas for reduction which shall be updated annually ("Sankey" diagrams and energy balances would be useful as aids).
44. The operator shall ensure that all plant is operated and maintained to optimise the use and minimise the loss of energy.
45. Fan motors shall be turned off when not in use to minimise energy usage.
46. The operator shall ensure that all appropriate containment methods (e.g. seals and self-closing doors) are employed and maintained to minimise energy loss.
47. The following techniques shall be considered as part of the annual report referred to in condition 42:
 - good insulation
 - plant layout to reduce pumping distances
 - phase optimisation of electronic control motors
 - use of less polluting fuels

Noise and Vibration

48. The operator shall identify key plant and equipment with the potential to give rise to significant noise and take such measures as are necessary by way of mitigation and maintenance of existing plant and equipment in order to minimise noise.
49. The operator shall employ basic good practice measures for the control of noise, in particular:
 - identification of key plant and equipment with the potential to give rise to noise nuisance
 - documented maintenance systems for the identified key plant and equipment
50. Where noise problems do occur as a result of fan and ductwork acoustics, housings and/or silencers shall be used.

Accidents/Incidents/Non Conformance

51. There shall be written procedures for investigating incidents and near misses, including identifying suitable corrective action and following up.
52. The operator shall maintain an accident management plan that identifies the hazards, assesses the risks and identifies the measures required to reduce the risk of potential events or failures that might lead to an environmental impact. The plan shall identify:
 - the actions to be taken to minimise these potential occurrences; and
 - the actions to deal with such occurrences so as to limit their consequences.

53. In the case of abnormal emissions arising from an accident, such as a spillage for example, the operator shall:
 - investigate immediately and undertake remedial action as soon as practicable
 - promptly record the events and actions taken
 - ensure the regulator is made aware, as soon as practicable
54. Spillage containment equipment shall be readily available in all areas where solvents and other liquids are stored and handled.
55. Appropriate precautions shall be taken to prevent ignition of flammable materials.
56. All spillages shall be cleared as soon as possible; solids by vacuum cleaning, wet methods, or other appropriate techniques may be used, however, dry sweeping of dusty spillages shall not be permitted.
57. The handling and use of flammable and explosive materials shall be carried out in accordance with the requirements of the Dangerous substances and explosive atmosphere regulations SI2776 2002.
58. Areas where flammable organic solvents and organic solvent containing materials are handled or used shall be suitably contained to minimise the potential spread of fire.
59. Operations shall not exceed 25% of the organic solvent LEL. Operations working at above 25% of the solvent LEL must be controlled using suitable monitoring and control devices.
60. The auto-ignition temperature shall not be exceeded in any organic solvent containing section of the process.
61. Electrical zoning and static protection shall be provided in the flammables store.

General Conditions

62. The operator shall ensure that deliveries are carried out in such a way so as to minimise noise, spillage, leaks and dusty emissions.
63. Storage areas shall be under cover and protected from the elements to avoid or minimise environmental impact, except where stored materials are in suitable weather proof containers.
64. Storage areas shall be hard surfaced.
65. All dusty or potentially dusty materials, such as absorbent granules and spent shot blast, shall be kept in sealed containers whilst stored on site. No uncovered stockpiles of dusty or potentially dusty materials shall be permitted.
66. Solvent containing materials shall be stored in closed storage containers.
67. The storage, handling and use of flammable materials shall be undertaken so as to prevent accidents and limit their consequences. This shall be carried out in accordance with a written procedure WP40 COSHH Assessment Procedure.
68. Mixing and blending vessels shall be enclosed during operation.
69. Air assisted airless spraying techniques shall be employed at the installation and must have a transfer paint efficiency of at least 65% when used on flat panels; (for information EN 13966-1:2003 is a European standard for the determination of the transfer efficiency for liquid coating materials. Part 1 concerns flat panels and shall be sufficient for evaluating transfer efficiency for this paragraph).
70. Consumption of organic solvents shall be minimised through good process control, using the appropriate techniques for the system as described in Guidance Notes GG 13, Cost Effective

Management of solvents in the printing and coating industries (Ref 6), produced by the Environmental Technology Best Practice Programme.

71. Substances or preparations with a VOC content that have been assigned risk phrases R40, R45, R46, R49, R60 or R61 shall not be permitted for use at the installation.
72. Specific improvements resulting from the recommendations of audits shall be carried out within a timescale approved by the regulator.
73. A senior manager or competent person shall be appointed to liaise with the regulator and the public with regard to complaints. The regulator shall be informed of any change of the designated individual.
74. The operator shall, at least 14 days before making any changes in the operation of the installation, notify the regulator of the proposed changes. This notification shall be in writing and contain a description of the proposed changes.
75. A high standard of housekeeping shall be maintained.

Signed:

Date:

John Warren
Senior Scientific Officer

Summary of Monitoring and Reporting Requirements

Emissions Monitoring

Condition No.	Description	Frequency
1	Visible and odour emissions monitoring	Daily
2	Particulate matter emissions monitoring	3 years

Audits / Reports

Condition No.	Description	Frequency
8	Emission testing results forwarded to regulator	Within 8 weeks of testing
13	Solvent Management Plan (SMP)	Annual
41	Waste minimisation audit	Annual
42	Energy use report	Annual

Lists

Condition No.	Description	Frequency
33	Key equipment for particulate matter emissions control	Update annually
48	Key plant requiring noise control	Update annually

Checks

Condition No.	Description	Frequency
29	Interceptors	Monthly
30	Bunds	Weekly
31	Storage areas and containers	Weekly

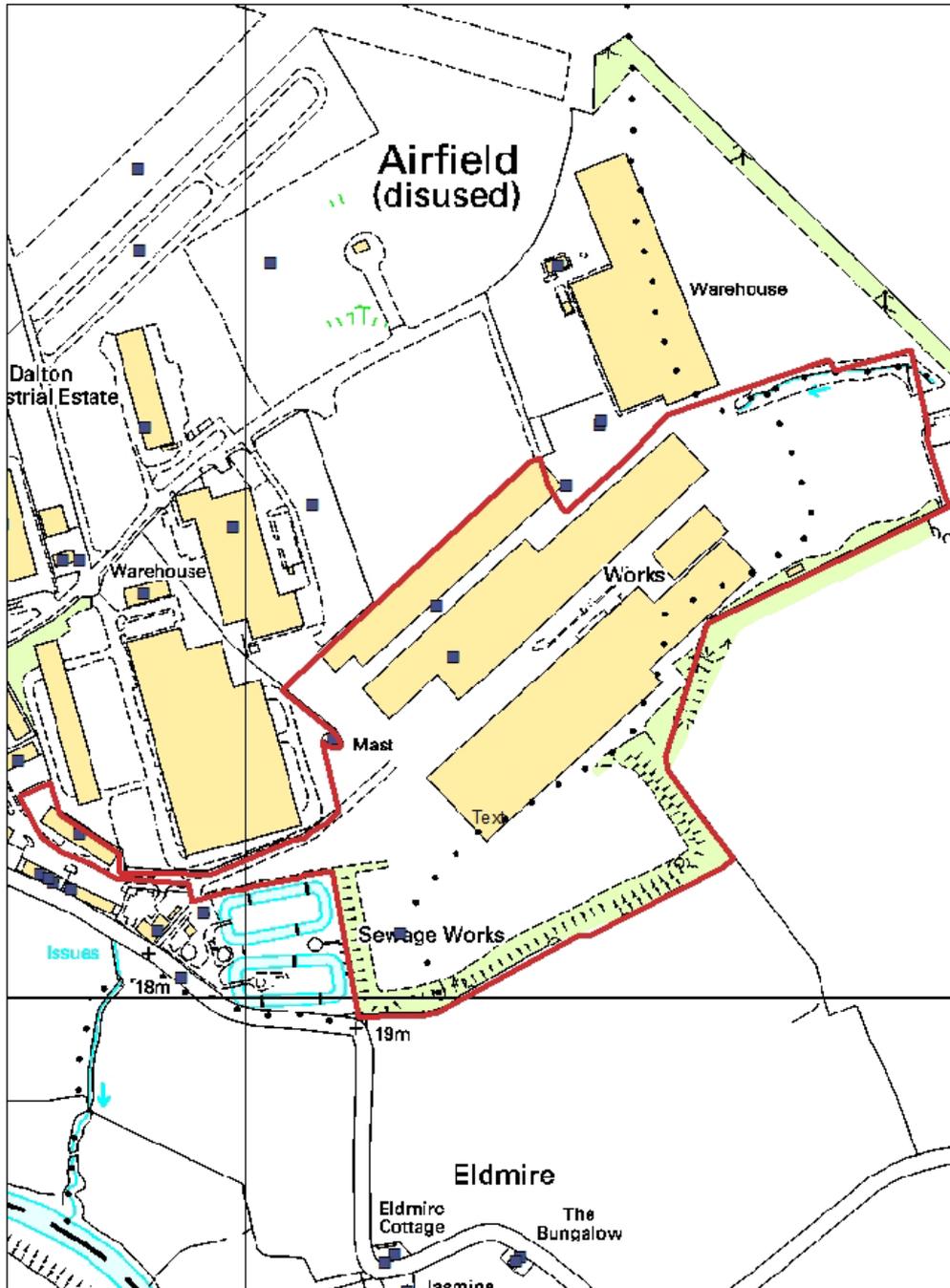
Procedures

Condition No.	Description	Frequency
27	Discharges, leaks and spills	Review annually
31	Container storage	Review annually
51	Accident investigation	Review annually
67	Storage, handling and use of flammable materials	Review annually

Inspection and Maintenance Programmes

Condition No.	Description	Frequency
21	Flues and ductwork	Review annually
28	Surfacing and containment kerbs	Review annually
32	Essential plant including major 'non-productive' items.	Review annually

Site Plan Ref: A201/V2/Plan1



0 62.5 125 250 Meters

1:5,000



General Notes

1. **Article 3(10) of the Industrial Emissions Directive (IED)** defines “best available techniques” as follows:

“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 the basis for emission limit values and other permit conditions designed to prevent and, where that is not practicable, to reduce emissions and the impact on the environment as a whole.”

- “Techniques’ includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned,
- ‘available techniques’ means those developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the costs and advantages, whether or not the techniques are used or produced inside the Member State in question, as long as they are reasonably accessible to the operator,
- ‘best’ means most effective in achieving a high general level of protection of the environment as a whole.”

In determining the best available techniques, special consideration should be given to the items listed in Annex III of the IED.

2. **Annex III of the IED** specifies criteria for determining best available techniques:
 - 1) the use of low-waste technology;
 - 2) the use of less hazardous substances;
 - 3) the furthering of recovery and recycling of substances generated and used in the process and of waste, where appropriate;
 - 4) comparable processes, facilities or methods of operation which have been tried with success on an industrial scale;
 - 5) technological advances and changes in scientific knowledge and understanding;
 - 6) the nature, effects and volume of the emissions concerned;
 - 7) the commissioning dates for new or existing installations;
 - 8) the length of time needed to introduce the best available technique;
 - 9) the consumption and nature of raw materials (including water) used in the process and energy efficiency;
 - 10) the need to prevent or reduce to a minimum the overall impact of the emissions on the environment and the risks to it;
 - 11) the need to prevent accidents and to minimise the consequences for the environment;
 - 12) information published by public international organisations.
3. The regulator considers that the availability of essential spares is a matter covered by the general ‘BAT’ requirement.
4. This permit is given in relation to the requirements of the Pollution Prevention and Control Act 1999. It must not be taken to replace any responsibilities you may have under workplace health and safety regulations.
5. This permit does not detract from the need to obtain any planning permissions, hazardous substances consent, building regulations approval or the requirements to obtain a waste disposal licence.
6. Full compliance with the conditions of this permit should eventually ensure that all emissions be free from offensive odour outside the activity boundary as defined on the attached plan A201/V2/Plan1.

Appendix 1 – VOC compliance methods

Solvent Management Plan

Definitions:

The following definitions provide a framework for the mass balance calculations used in determining compliance with the requirements of the Solvent Management Plan and the Reduction Scheme.

Inputs of Organic Solvent in the time frame over which the mass balance is being calculated (**I**).

I1 The quantity of organic solvents, or their quantity in preparations purchased which are used as input into the process/activity (including cleaning solvents).

I2 The quantity of organic solvents or their quantity in preparations recovered and reused as solvent input into the process/activity. (the recycled solvent is counted every time it is used to carry out the activity.)

Outputs of Organic Solvents in the time frame over which the mass balance is being calculated (**O**).

O1 Emissions in waste gases.

O2 Organic solvents lost in water, if appropriate taking into account waste water treatment when calculating **O5**.

O3 The quantity of organic solvents which remains as contamination or residue in products output from the process/activity.

O4 Uncaptured emissions of organic solvents to air. This includes the general ventilation of rooms, where air is released to the outside environment via windows, doors, vents and similar openings.

O5 Organic solvents and/or organic compounds lost due to chemical or physical reactions. (including for example those which are destroyed, e.g. by thermal oxidation or other waste gas or waste water treatments, or captured, e.g. by adsorption, as long as they are not counted under **O6**, **O7** or **O8**).

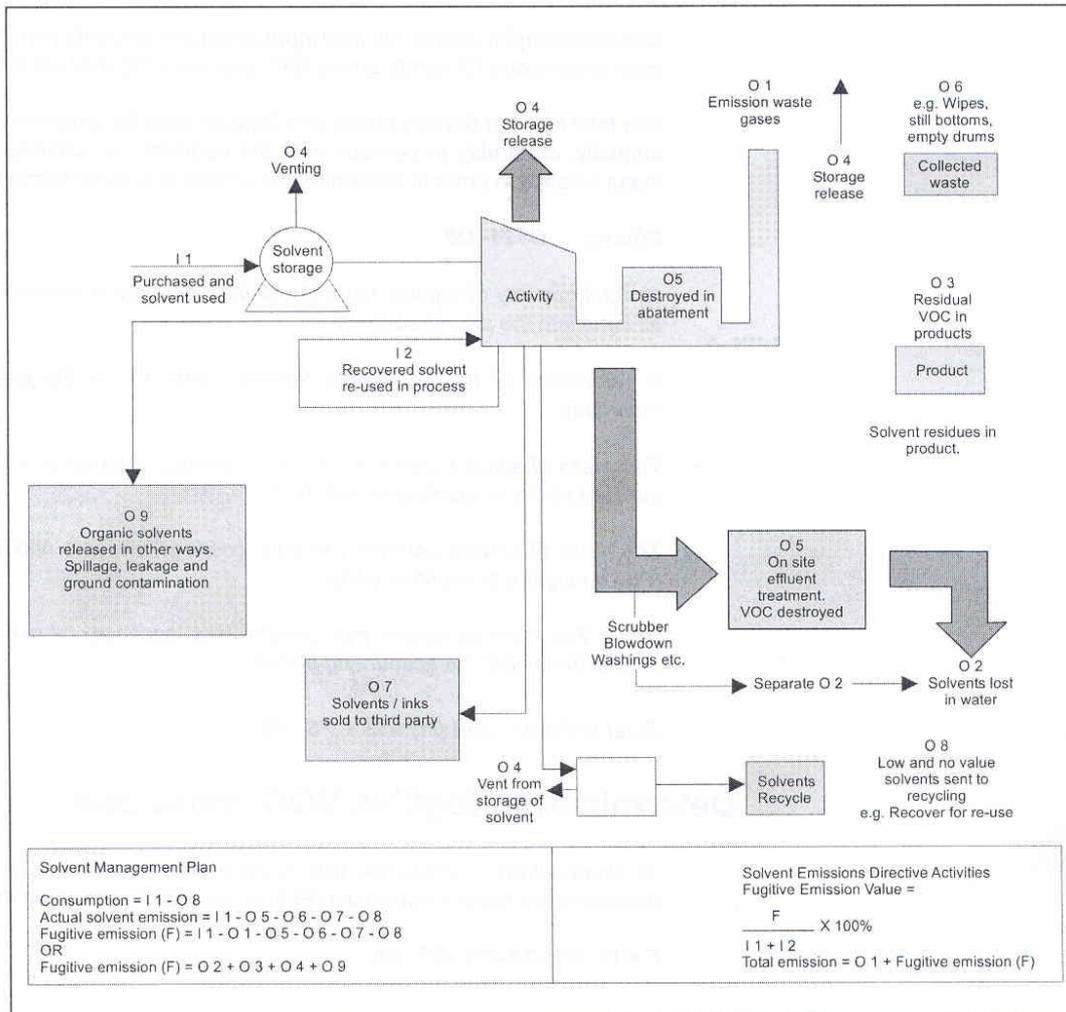
O6 Organic solvents contained in collected waste.

O7 Organic solvents, or organic solvents contained in preparations, which are sold or are intended to be sold as a commercially valuable product.

O8 Organic solvents contained in preparations 'recovered for reuse but not as input into the process/activity, as long as not counted under **O7**.

O9 Organic solvents released in other ways.

Solvent management plan



Determination of Consumption

Consumption (**C**): means the total input of organic solvents into an installation in the last calendar year, or previous 12-month period (**I1**), less any VOC that are recovered for reuse (**O8**).

The total mass of Solvent Inputs and Outputs must be determined and submitted to the regulator annually, preferably to coincide with the operators stocktaking requirements, in the form of a mass balance in order to determine the annual actual consumption of solvent

Where: C= I1- O8

I1 Total quantity of organic solvents, or their quantity in preparations purchased which are used as input into the process/activity

A calculation of the purchased Solvent Input (**I1**) to the process/activity, is carried out by recording:

The mass of solvent contained in inks, coatings, diluents and cleaners in the initial stock (**IS**) at the start of the accounting period, plus

The mass of solvent contained in inks, coatings, diluents and cleaners in the purchased stock (**PS**) during the accounting period, minus

The mass of solvent contained in inks, coatings, diluents and cleaners in the final stock (**FS**) at the end of the accounting period.

Total Solvent Input (I1) = IS + PS - FS

Determination fugitive VOC emissions

To demonstrate compliance with fugitive emission values in Section 2 the operator must determine the fugitive emissions (F) from the installation using the following:

F = I1 -O1 -O5 -O6 -O7 -O8 or **F=O2+O3+O4+O9**

This quantity can be determined by direct measurement of the quantities. Alternatively, an equivalent calculation can be made by other means, for instance by using the capture efficiency of the process.

The Fugitive Emission value as a percentage of the Solvent Input (**I**) is determined by

Fugitive Emission Value = 100 x F/I

Where the Solvent Input (**I**) = **I1+ I2** (determined as part of the Solvent Management Plan)

Fugitive emission values must be determined for each installation, once completed, it need not be repeated until the equipment is modified.

Determination of compliance with the Reduction Scheme

Compliance with Reduction Scheme is achieved if the annual actual solvent emission is less than or equal to the Target Emission.

Where the annual actual solvent emission is:

annual actual solvent emission = I1-O8-O7-O6 (-O5 if abatement has been used)

(see Definitions above)

Where a coating activity includes both food and non-food contact coating, compliance with the reduction scheme should be determined for each operation separately. Compliance is achieved if the annual actual solvent emission for both the food contact and the non-food contact coating is less than or equal to the sum of the individual target emissions for food contact and non-food contact coating.

The solids content of coating inks etc. should be determined in accordance with ISO method ISO-3251:1993(E)

Determination of compliance with the Total Emission Limit Values

Compliance is achieved if the Total Emission from the activity expressed in solvent emissions per unit of product, or otherwise as stated is equal to or less than the Total Emission Limit Value,

Where Total Emission is equal to the mass of solvent released in waste gases Plus the fugitive emissions determined above

Total Emission = O1 + Fugitive (See above)