

GUIDANCE NOTE FROM THE DEPARTMENT FOR ENVIRONMENT, FOOD AND RURAL AFFAIRS AND THE NATIONAL ASSEMBLY FOR WALES ON THE IMPLEMENTATION OF THE SOLVENT EMISSIONS DIRECTIVE

Note: Minor changes have been made to this document, which was revised on May 2, 2002.

This note gives guidance on the Directions issued on 22 March 2002 under Pt I Environmental Protection Act 1990 and the Pollution Prevention and Control Regulations 2000 in order to implement EU Directive 1999/13/EC on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain activities and installations. This is referred to as the Solvent Emissions Directive (SED)¹.

Background

1. The SED has been transposed for certain activities within its scope through Directions under Pt I of the Environmental Protection Act 1990 and the Pollution Prevention and Control Regulations 2000.
2. The aim of the SED is to prevent or reduce the direct and indirect effects of emissions of volatile organic compounds (VOCs) into the environment, mainly into air, and the potential risks to human health, by providing measures and procedures to be implemented for the activities defined in Annex I of the SED (set out in Part II to Schedule 1 of both Directions), in-so-far as they are operated above the solvent consumption thresholds listed in Annex IIA of the SED (set out in Parts III and IV to Schedule 1 of both Directions). The list of sectors covered, thresholds and emission limit values specified in the SED is attached in Appendix 1 to this note.
3. Activities within the scope of the Directions, are those listed in the SED and either regulated under Pt I of the Environmental Protection Act (EPA) 1990 or the Pollution Prevention and Control (PPC) Regulation 2000. The Directions require regulators to include conditions in EPA authorisations or PPC permits to meet the additional SED requirements. The technical requirements will be outlined in the relevant Technical or Process Guidance Notes which are currently being revised to take account of the new requirements of the SED.

¹ Council Directive 1999/13/EC of 11 March 1999 on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain activities and installations. The full text of the Directive can be found at http://europa.eu.int/eur-lex/en/lif/dat/1999/en_399L0013.html

This guidance is for:

- regulators: who must have regard to the guidance in Technical or Process Guidance Notes when determining applications and reviewing existing authorisations and permits,
 - operators: who are advised also to have regard to it when making applications, and in the subsequent operation of their process,
 - members of the public: who may be interested to know how the Government has transposed the Directive.
4. This guidance describes the main provisions of the SED and sets out the views of the Secretary of State for the Department for Environment, Food and Rural Affairs (DEFRA) on how it should be applied and certain terms interpreted. This guidance explains the main legal provisions of the SED, but the precise requirements can only be determined by referring to the Directions themselves.

Timeframe for complying with the SED Directions

5. New installations are required to meet the SED requirements before they are put into operation.
6. However, where a new installation has received an authorisation or permit before 22 March 2002, it is required to meet the SED requirements no later than 22 July 2002.
7. Existing installations have until the 31 October 2007 to fully meet SED requirements.
8. If an existing installation undergoes a substantial change on or after 1 April 2001 then that part which has undergone the substantial change must be treated as a new installation and meet the SED requirements from the date that the authorisation or permit is varied (unless the operator satisfies the exception and the whole installation can be treated as an existing installation – see paragraph 10 below). It is only the SED part of the installation undergoing the substantial change, which is to be treated as a new installation.
9. Where that substantial change was made on or after 1 April 2001 but before 22 March 2002, the substantially changed part is required to meet the SED requirements no later than 22 July 2002.
10. If the total emissions of the **whole** installation do not exceed those that would have resulted had the substantially changed part been treated as a new installation, the whole installation may be treated as an existing installation (see paragraph 7 for the timeframe for compliance).
11. Operators who opt for the reduction scheme must notify the regulator in writing by 31 October 2005.

12. For installations not using the reduction scheme, any VOC abatement equipment installed after 1 April 2001 must comply with the emission limit values in the SED. Where such equipment has been installed before 22 March 2002, the SED requirements must be met no later than 22 July 2002.
13. Operators can opt to comply with the SED earlier if, for instance, they wish to have the SED requirements included in their new permits as they are phased into the new PPC regime. Regulators should not require compliance earlier than is specified in the Directions unless earlier compliance is envisaged in the Technical or Process Guidance Notes or the regulator judges earlier compliance to represent BATNEEC or BAT in the particular case.
14. Regulators must include specific conditions in the authorisations or permits so as to ensure the activity is operated in accordance with the requirements of the SED.

Definitions

15. The meaning of "installation", "existing installation", "small installation" and "substantial change" are as defined in the SED as follows:
 - **"Installation"** means a stationary technical unit where one or more activities within the scope of the SED are carried out and any other directly associated activities, which have a technical connection with the activities carried out on that site and which could have an effect on emissions.
 - Whilst this is effectively the same definition as in the Integrated Pollution Prevention and Control regime,² the definition of an associated activity is limited only to those that have an effect on VOC emissions from the installation. This is because under the SED an emission is defined as any discharge of volatile organic compounds from an installation into the environment.
 - **"Existing installation"** means an installation in operation or, in accordance with legislation existing before 1 April 2001, an installation which is authorised or registered or, in the view of the competent authority, the subject of a full request for authorisation, provided that the installation is put into operation no later than 1 April 2002.
For the purposes of the directions, this includes an installation:
 - that is authorised or permitted under EPA or PPC and in operation before 1 April 2001; or for which the regulator is in receipt of a full valid application before 1 April 2001 for either an authorisation or a permit in accordance with the EPA or PPC regimes, so long as it is put into operation before 1 April 2002.

² "Integrated Pollution Prevention and Control, A Practical Guide", (copies are available free of charge from DEFRA Publications Unit, Admail 6000, London SW1A 2XX 08459 556000 or the DEFRA website at <http://www.defra.gov.uk/environment/ppc/ipccguide/index.htm>)

- **“Small Installation”** means an installation which falls within the lower threshold band of items 1,3,4,5,8,10,13,16 or 17 of Annex IIA of the SED or for the other activities of Annex IIA which have a solvent consumption of less than 10 tonnes/year.
- **“New installation”** is not defined in the SED. However, any installation that does not come within the definition of an existing installation is a new installation.
- **“Substantial change”** is defined specifically in the SED and this definition overrides the EPA and PPC definitions for SED purposes:

Substantial change shall mean:

- a) – for installations falling within the scope of the IPPC Directive, the definition specified in that Directive – which is:
 - a change in operation which, in the opinion of the competent authority, may have significant negative effects on human beings or the environment;
- b) – for small installations:
 - a change of the nominal capacity leading to an increase of emissions of volatile organic compounds of more than 25%; or
 - any change that may have, in the opinion of the competent authority, significant negative effects on human health or the environment is also a substantial change.
- c) for all other installations:
 - a change of the nominal capacity leading to an increase of emissions of volatile organic compounds of more than 10%; or
 - any change that may have, in the opinion of the regulator, significant negative effects on human health or the environment is also a significant change.

Nominal capacity is defined in the SED as the maximum mass input of organic solvents by an installation averaged over one day, if the installation is operated under conditions of normal operation at its design output.

Compliance for new installations

16. Where a regulator deals with an application for a new installation specific conditions must be included in the authorisation or permit when granted to ensure compliance with the SED requirements.
17. Where an authorisation or permit has been granted after 1 April 2001, but before the 22 March 2002, that authorisation or permit will need to be varied by 22 July 2002 to incorporate the requirements of the SED. Regulators should advise operators of any proposed changes required to meet the SED before the variation is issued.
18. Where part of an installation is to be treated as a new installation following a substantial change, the specific conditions must be included in the authorisation or permit when varied. Where the change was made on or

after 1 April 2001 but before 22 March 2002, regulators will need to vary the authorisation or permit no later than 22 July 2002.

19. Permitting of all new installations and substantial changes must be in line with the standards and requirements of the SED. Where there are any differences or conflicts between what is required under the Directions and what is BAT or BATNEEC as specified in the Technical or Process Guidance notes, the former should be taken to apply, except regard should be had to the guidance notes to the extent that they envisage standards additional to or more stringent than the SED.
20. If an activity is identified as operating without an authorisation when it should have had one under EPA or PPC, then that activity **MUST** be treated as a new installation.

Compliance for Existing processes/installations

21. The deadline for complying with the SED requirements for existing processes or installations is no later than 31 October 2007.
22. However if an operator of an installation wants to opt to use a “reduction scheme”, they must notify the regulator of this in writing by 31 October 2005. Annex IIB of the SED (Schedule 3 to both Directions) gives details of time periods for achieving emission limits where a reduction scheme is used for the relevant industry sectors.
23. Article 5.11 of the Directive provides for exemption from emission limit values until 1 April 2013 for existing installations using existing abatement equipment provided the following conditions are met:
 - Existing installations which operate existing abatement equipment and comply with the following emission limit values:
 - 50 mg C/Nm³ in the case of incineration,
 - 150 mg C/Nm³ in the case of any other abatement equipment,shall be exempt from the waste gases emission limit values in the table in Part III of Schedule 1 to both Directions for a period of 12 years from 1 April 2001, provided the total emissions of the whole installation do not exceed those that would have resulted had all the requirements of the table been met.
24. However, if an existing installation, not using the reduction scheme, wants to install any new abatement equipment after the 1 April 2001, it must ensure that the emissions from that new abatement equipment meet the emissions limits outlined in Annex IIA of the Directive (Part III to Schedule 1 in both Directions). Where new abatement equipment has been already been installed (ie after 1 April 2001 but before 22 March 2002), it must meet the SED emissions limits by 22 July 2002. Abatement equipment includes end of pipe technology such as the installation of an thermal oxidiser, condenser or bio-scrubber.

25. Existing installations which use substances or preparations containing volatile organic compounds that are classified as **carcinogenic, mutagenic or toxic to reproduction**, and which carry specified risk phrases, have to take steps to replace them, as far as possible, with less harmful substances and preparations within the shortest possible time (see paragraph 34 below).
26. It should be noted that the SED introduces a specific definition of a volatile organic compound (VOC). Under the SED, VOCs include substances that are volatile at room temperature and under their conditions of use – such as when heat is applied during a process.
27. A summary of the implementation timetable is given in Appendix 2.

General Requirements:

28. The specific requirements for compliance with the SED are found in the Directions. Specialist guidance will be made available in the revised Process or Technical Guidance Notes for each of the industry sectors affected.
29. New installations, new abatement equipment (where the reduction route for compliance is not used) and substantial changes to existing activities which do not fulfil the exemption outlined in paragraph 10 will have to meet the SED's requirements from the 22 March 2002.
30. Unchanged existing authorised activities (or activities where there has been a change that is NOT a substantial change) will have until 31 October 2007 to fully comply if using the Emission Limit Values compliance route.
31. In general, activities operated above the solvent consumption threshold will need to either:
 - meet an emission limit value in waste gases (mg C/N m³) and a fugitive emission limit value (percentage of solvent use); or
 - meet the total emission limit value; or
 - implement a solvent reduction scheme to reduce emissions from the installation equal to those that would be achieved by meeting the total emission limit value.

NB: The reduction scheme cannot be used for certain R phase compounds.

32. There are stricter requirements for those activities using potentially more harmful substances such as halogenated VOCs which are assigned the risk phrase R40 or VOCs carrying the risk phrases R45, R46, R49, R60, R61. (The text of the R phrases is given in Appendix 3 to this document). See paragraph 34 for more information.
33. The SED (Schedule 2 paragraph 2 to both Directions) gives discretion to the competent authority to adopt different emission limits or exempt an installation from complying with a specific emission limit value if, for example, the Directive requirements are demonstrated not to be technically and economically feasible provided that the significant risks to human health

or the environment are not expected. The Department expects the Directive's emission limits to be applied in all but a few exceptional cases, specifically where the activities cannot be carried out in contained conditions such as the coating of constructional steel, railway carriages, aircraft and boats. Any such alternative measures would need to be clearly justified and approved by the competent authority. The operator must demonstrate to the satisfaction of the regulator that the best available technique is being used and that there are no significant risks to human health or the environment. The Regulator must notify the Department for Environment, Food and Rural Affairs of any cases where the emission limits are not applied before the permit is issued giving full justification for granting the application for the derogation.

Halogenated VOCs and substances classified as carcinogenic, mutagenic or toxic to reproduction

34. Where an activity uses certain harmful substances such as halogenated VOCs which are assigned the risk phrase R40 or substances or preparations containing VOCs that are classified as carcinogenic, mutagenic or toxic to reproduction and which carry the risk phrase R45, R46, R49, R60 or R61, the SED sets out further controls that need to be met. Conditions must be included in authorisations and permits to:

- ensure compliance with emission limit values in the shortest possible time;
- control emissions under contained conditions as far as technically and economically feasible to safeguard public health and the environment;

and additionally, for substances classified as carcinogenic, mutagenic or toxic to reproduction and which carry the risk phrase R45, R46, R49, R60 or R61:

- work towards substituting the substance within the shortest possible time.

35. Where the mass flow of the sum of the compounds causing the labelling R40 is 100g/h or more, an emission limit value of 20 mg/m³ of the mass sum of the individual compounds shall be complied with.

36. Where the mass flow of the sum of the compounds causing the labelling R45, R46, R49, R60 or R61 is 10g/h or more, an emission limit of 2mg/m³ of the mass sum of the individual compounds shall be complied with.

Substitution within the shortest possible time

37. The SED requires existing installations using the compounds or substances classified as carcinogenic, mutagenic or toxic to reproduction and which carry the risk phrases R45, R46, R49, R60 or R61 to substitute these substances and preparations in the shortest possible time. Regulators should request operators of these installations to submit a timetable for the substitution. The timetable should be submitted no later than 22 March 2003.

38. Where a substance or preparation is reclassified, regulators should request operators to submit a timetable for the substitution of that substance or preparation in the shortest possible time. Such request should be made within one year of the reclassification.
39. Where regulators are satisfied that the timetables will achieve substitution within the shortest possible time, they should vary the authorisations or permits to incorporate them.
40. Regulators need to consider the time needed for substitution and whether to require compliance with emission limit values within the shortest possible time as an interim measure. Where substitution is not currently technically or economically feasible, compliance with emission limit values must be within the shortest possible time.
41. Operators need to demonstrate to the satisfaction of the regulator that they have taken steps to substitute these harmful substances in the shortest possible time. In determining the shortest possible time, the operator will need to justify their timetables taking account of the technical or economic feasibility of the substitution. In identifying the use of substitutes, operators and regulators must consider :
 - Fitness for use;
 - Potential effects on human health;
 - Potential effects on the environment; and
 - The economic consequences, in particular the costs and benefits of the options available.
42. Regulators and operators should also take into account any guidance issued in the relevant PG notes or technical guidance notes and by the European Commission.

Regulating two or more activities on a site

43. Some sites may operate two or more activities in the one installation. Where different activities take place the SED only applies to those that fall within its scope (see paragraph 3). Unless the activities are technically connected, only the solvent consumption of the activity within the scope of the SED counts towards the threshold in determining whether the installation falls within the scope of the SED or not.
44. Directly associated activities i.e. those which have a technical connection which could have an effect on the discharge of VOCs from the installation must be taken into account when determining whether the installation is within the scope of the SED. This could include, for instance, storage tanks used for storing solvents on site. Further guidance on defining technically connected activities is given in Integrated Pollution Prevention and Control - a Practical Guide (see footnote 2).

45. Technically connected solvent activities carried out within the same installation will form part of the main activity and have to meet the requirements and waste gas emission limits of that activity unless it falls within a separate activity (Annex I of the SED as set out Part II to Schedule 1 of both Directions) and meets the solvent consumption threshold (in Annex IIA of the SED as set out in Parts III and IV to Schedule 1 of both Directions). In that case it should be regarded as an additional activity within a single installation.
46. Where two or more of the activities in Annex I of the SED are carried out, each of which exceeds the thresholds in Annex IIA of the SED, it may be advantageous to treat them together as if they were one activity. This is permitted, as long as the solvent emissions of the whole installation do not exceed those that would have resulted if each activity had individually been treated according to the SED.

Example:

A printworks carries out continuous coating operations using 5 tonnes or more of solvent. The coating and any associated printing on the same article should be regarded as part of the coating installation. If additional printing that does not involve continuous coating is carried out and is technically connected to the coating activity then that forms part of the installation, if it uses less than 15 tonnes of solvent. If it uses 15 tonnes or more, it should be regarded as a separate printing activity as defined within the SED. If additional printing is carried out within the same installation, which is not technically connected to the coating activity, that additional printing should be regarded as a separate activity and assessed separately to see if it meets the SED threshold. If so, it is treated as a separate SED activity.

47. An installation carrying out both food and non-food contact coating, for instance, could comply with two different reduction schemes. In such a case the operator will need to assess the emissions from each activity separately. If it is not possible to split the emissions from each activity, then the more stringent limit applies. However, if the emissions cannot be split because the contribution from the non-food contact coating was sufficiently small that it could not be identified separately, a *de minimis* rule may be applied and the contribution to the total emissions from the non-food contact coating process be ignored.
48. It is not possible to use the approach set out in paragraph 45 in relation to certain volatile organic compounds with risk phrases R45, R46, R49, R60, R61 and halogenated volatile organic compounds with a risk phrase R40. They must meet the requirements specified for each activity individually (see paragraph 34).

The solvent management plan (Schedule 4 to both Directions)

49. Each operator must compile an annual Solvent Management Plan. This can usefully coincide with the annual stocktaking requirements. The purpose of

the plan is to demonstrate compliance with the requirements of the SED as specified in paragraph 16 to Schedule 2 to the Directions.

50. It should be noted that solvent consumption for the purposes of determining whether an activity meets the threshold is **not** the same as solvent consumption for the purposes of demonstrating compliance with the SED. For clarity therefore, solvent consumption to demonstrate compliance is referred to as '**actual solvent consumption**'. For the purposes of demonstrating compliance with the SED, such plan needs to be compiled on an annual basis.
51. The details of the Solvent Management Plan will depend on the route chosen by the operator to comply with the requirements of the SED. Schedule 3 to both Directions gives guidance on carrying out of the plan.
52. In the case of an installation using the reduction option, actual solvent consumption may be calculated as follows: quantity of organic solvents input into the process less organic solvent contained in preparations recovered for reuse other than in the activity, save for solvent contained in preparations intended for commercial sale. A parallel exercise should also be carried out to determine solids used in coating in order to derive the annual reference emission and target emission each year.
53. For installations where two or more activities are carried out, each of which exceeds the threshold in Annex IIA of the SED, the Solvent Management Plan should be compiled to determine total emissions from all activities concerned. That figure should then be compared with the total emissions that would have resulted had the requirements of Annex II of the SED been met for each activity separately.
54. The total emissions are defined as the sum of the fugitive emissions and emissions in waste gases. The waste gases are the contained emissions from a stack or abatement equipment into the air. Fugitive emissions include uncaptured emissions released into the outside environment via doors, windows, vents and similar openings. Venting from a storage tank for instance would be considered a fugitive emission.

Monitoring and reporting

55. In addition to submitting an annual Solvent Management Plan, operators using the emission limit values option must demonstrate to the regulator once a year or on request that the emissions comply with the requirements of the Directive. Where the emission is abated and is more than 10kg/h (as carbon), emissions must be monitored continuously for compliance. This can include surrogate measurements such as monitoring the operating temperature or CO emissions from incinerators.
56. If compliance with emission limit values is achieved without the use of abatement equipment, continuous monitoring is not required. However

operators must still supply the regulator once a year or on request with data that enables the regulator to verify compliance with the Directive.

Non compliance

57. Enforcement action for non-compliance may be taken under the relevant powers under Pt I EPA '90 or the PPC Regulations 2000.
58. The Directive specifically states that where the requirements of the SED have been breached:
 - a) the operator must inform the regulator and take measures to ensure that compliance is restored within the shortest possible time;
 - b) in cases of non compliance causing immediate danger to human health the operator must suspend the activity.

Public access to information

59. Construction of inventories of materials consumed and disposed of for the Solvent Management Plan may involve the identification of individual solvents or solids. This may give rise to an issue of commercial confidentiality. Information supplied as part of the Solvent Management Plan must be placed on the public register, unless exclusion has been granted on the grounds of commercial confidentiality or national security. The rules applying to commercial confidentiality are the same as those that apply under the existing regimes. These are explained in Integrated Pollution Prevention and Control – a Practical Guide see footnote 2).
60. In determining whether the information should be withheld from public registers for reasons of commercial confidentiality, operators and regulators should consider whether inclusion of the information would prejudice to an unreasonable degree the commercial interests. It should take account of both the extent of any damage that might be caused and the likelihood of such damage in fact being caused. Consideration should also be given to any benefits to the public interest that would arise from inclusion of the information in question and whether the information might enable the public to be better informed of the likely environmental impact of the process.

Reporting to the Commission

61. At intervals of every three years, the SED requires Member States to send to the Commission, information on the implementation of the Directive in the form of a report. The report will be drawn up on the basis of a questionnaire drafted by the Commission. Regulators will be required to submit data relating to SED installations they regulate. The Department will make arrangements to request this data six months before the start of the period covered by the report.

Appendix 1								
	Activity (solvent consumption threshold in tonnes/year)	Threshold (solvent consumption threshold in tonnes/year)	Emission limit values in waste gases (mg C/Nm ³)	Fugitive emission values (percentage of solvent input)		Total emission limit values		Special provisions
				New	Existing	New	Existing	
1	Heatset web offset printing (> 15)	15 – 25 > 25	100 20	30 ⁽¹⁾ 30 ⁽¹⁾				⁽¹⁾ Solvent residue in finished product is not to be considered as part of fugitive emissions
2	Publication rotogravure (> 25)	> 25	75	10	15			
3	Other rotogravure, flexography, rotary screen printing, laminating or varnishing units (> 15) rotary screen printing on textile/cardboard (> 30)	15 – 25 > 25 > 30 ⁽¹⁾	100 100 100	25 20 20				⁽¹⁾ Threshold for rotary screen printing on textile and on cardboard.
4	Surface cleaning ⁽¹⁾ (> 1)	1 – 5 > 5	20 ⁽²⁾ 20 ⁽²⁾	15 10				⁽¹⁾ Using compounds specified in Article 5(6) & (8). ⁽²⁾ Limit refers to mass of compounds in mg/Nm ³ , and not to total carbon.
5	Other surface cleaning (> 2)	2 – 10 > 10	75 ⁽¹⁾ 75 ⁽¹⁾	20 ⁽¹⁾ 15 ⁽¹⁾				⁽¹⁾ Installations which demonstrate to the competent authority that the average organic solvent content of all cleaning material used does not exceed 30% by weight are exempt from application of these values.

	Activity (solvent consumption threshold in tonnes/year)	Threshold (solvent consumption threshold in tonnes/year)	Emission limit values in waste gases (mg C/Nm ³)	Fugitive emission values (percentage of solvent input)		Total emission limit values		Special provisions
				New	Existing	New	Existing	
6	Vehicle coating (< 15) and vehicle ref inishing	> 0.5	50 ⁽¹⁾	25				⁽¹⁾ Compliance in accordance with Article 9(3) should be demonstrated based on 15 minute average measurements.
7	Coil coating (> 25)	>25	50 ⁽¹⁾	5	10			⁽¹⁾ For installations which use techniques which allow reuse of recovered solvents, the emission limit shall be 150.
8	Other coating, including metal, plastic, textile ⁽⁵⁾ , fabric, film and paper coating (> 5)	5 – 15 > 15	100 ^{(1) (4)} 50/75 ^{(2) (3) (4)}	25 ⁽⁴⁾ 20 ⁽⁴⁾				⁽¹⁾ Emission limit value applies to coating application and drying processes operated under contained conditions. ⁽²⁾ The first emission limit value applies to drying processes, the second to coating application processes. ⁽³⁾ For textile coating installations which use techniques which allow reuse of recovered solvents, the emission limit applied to coating application and drying processes taken together shall be 150. ⁽⁴⁾ Coating activities which cannot be applied under contained conditions (such as shipbuilding, aircraft painting) may be exempted from these values, in accordance with Article 5(3)(b). ⁽⁵⁾ Rotary screen printing on textile is covered by activity No 3.
9	Winding wire coating (> 5)	> 5				10 g/kg ⁽¹⁾ 5 g/kg ⁽²⁾		⁽¹⁾ Applies for installations where average diameter of wire = 0.1 mm. ⁽²⁾ Applies for all other installations.
10	Coating of wooden surfaces (> 15)	15 – 25 > 25	100 ⁽¹⁾ 50/75 ⁽²⁾	25 20				⁽¹⁾ Emission limit applies to coating application and drying processes operated under contained conditions. ⁽²⁾ The first value applies to drying processes, the second to coating application processes.

	Activity (solvent consumption threshold in tonnes/year)	Threshold (solvent consumption threshold in tonnes/year)	Emission limit values in waste gases (mg C/Nm ³)	Fugitive emission values (percentage of solvent input)		Total emission limit values		Special provisions
				New	Existing	New	Existing	
11	Dry cleaning					20 g/kg ^{(1) (2)}		⁽¹⁾ Expressed in mass of solvent emitted per kilogram of product cleaned and dried. ⁽²⁾ The emission limit in Article 5(8) does not apply for this sector.
12	Wood impregnation (> 25)	> 25	100 ⁽¹⁾	45		11 kg/m ³		⁽¹⁾ Does not apply for impregnation with creosote.
13	Coating of leather (> 10)	10 – 25 > 25 > 10 ⁽¹⁾				85 g/m ² 75 g/m ² 150 g/m ²	Emission limits are expressed in grams of solvent emitted per m ² of product produced. ⁽¹⁾ For leather coating activities in furnishing and particular leather goods used as small consumer goods like bags, belts, wallets etc.	
14	Footwear manufacture (> 5)	> 5				25 g per pair		Total emission limit values are expressed in grams of solvent emitted per pair of complete footwear produced.
15	Wood and plastic lamination (>5)	>5				30 g/m ²		
16	Adhesive coating (> 5)	5 – 15 > 15	50 ⁽¹⁾ 50 ⁽¹⁾	25 20				⁽¹⁾ If techniques are used which allow reuse of recovered solvent, the emission limit value in waste gases shall be 150.

	Activity (solvent consumption threshold in tonnes/year)	Threshold (solvent consumption threshold in tonnes/year)	Emission limit values in waste gases (mg C/Nm ³)	Fugitive emission values (percentage of solvent input)		Total emission limit values		Special provisions
				New	Existing	New	Existing	
17	Manufacture of coating preparations, varnishes, inks and adhesives (> 100)	100 – 1 000 > 1 000	150 150	5 3		5% of solvent input 3% of solvent input	The fugitive emission value does not include solvent sold as part of a coatings preparation in a sealed container.	
18	Rubber conversion (> 15)	> 15	20 ⁽¹⁾	25 ⁽²⁾		25% of solvent input	⁽¹⁾ If techniques are used which allow reuse of recovered solvent, the emission limit value in waste gases shall be 150 ⁽²⁾ The fugitive emission value does not include solvent sold as part of products or preparations in a sealed container.	
19	Vegetable oil and animal fat extraction and vegetable oil refining activities (> 10)	> 10				Animal fat: 1.5 kg/tonne Castor: 3 kg/tonne Rape seed: 1 kg/tonne Sunflower seed: 1 kg/tonne Soya beans (normal crush): 0.8 kg/tonne Soya beans (white flakes): 1.2 kg/tonne Other seeds and other vegetable matter: 3 kg/tonne ⁽¹⁾ 1.5 kg/tonne ⁽²⁾ 4 kg/tonne ⁽³⁾	⁽¹⁾ Total emission limit values for installations processing individual batches of seeds and other vegetable matter should be set by the competent authority on a case-by-case basis, applying the best available techniques. ⁽²⁾ Applies to all fractionation processes excluding de-gumming (the removal of gums from oil). ⁽³⁾ Applies to de-gumming.	
20	Manufacturing of pharmaceutical products (> 50)	> 50	20 ⁽¹⁾	5 ⁽²⁾	15 ⁽²⁾	5% of solvent input 15% of solvent input	⁽¹⁾ If techniques are used which allow reuse of recovered solvent, the emission limit value in waste gases shall be 150. ⁽²⁾ The fugitive emission limit value does not include solvent sold as part of products or preparations in a sealed container.	

Appendix 2

Timetable for Implementation:

Status	Treat as new or existing	Transitional Arrangements	Date for compliance
Authorised or permitted or submitted valid application pre 1 April 2001 and operating prior to April 2002. (not using substances labelled with certain risk phrases – see below)	Existing	No	No later than 31 October 2005 for notification of compliance using the Reduction Scheme. No later than 31 October 2007 for any other method of compliance.
Operating without the required authorisation or permit when it should have one	New	No	SED conditions to be included in permit from 22 March 2002.
Existing installation installs new abatement equipment after 1 April 2001 but before 22 March 2002	Existing	Yes	Emissions from the abatement equipment must comply with the ELVs in the Directive by 22 July 2002
Existing installation installs new abatement equipment after 22 March 2002	Existing	No	Emissions from the abatement equipment must meet the ELVs in the Directive from the date of the change.
Substantial change made pre 1 April 2001 or application for substantial change made pre 1 April 2001 and operating prior to April 2002	Existing	No	No later than 31 October 2005 for notification of compliance using the Reduction Scheme. No later than 31 October 2007 for any other method of compliance.
Valid application for a substantial change submitted; or Comes within the scope of the Directive for the first time following a substantial change after 1 April 2001 and authorised or permitted before 22 March 2002	Can treat substantial change as new or existing subject the following conditions: Where the total emission from the whole installation do not exceed those that would have resulted had the substantially changed part been treated as a new installation it is treated as existing.	Yes	Where the substantial change is treated as a new installation, compliance must be achieved by 22 July 2002. If the substantial change meets the conditions and it is regarded as existing installation, compliance must be no later than 31 October 2007. The unchanged part of the installation continues to be treated as an existing installation

Substantial change to existing installation after 22 March 2002	<p>Can treat substantial change as new or existing subject the following conditions:</p> <p>Where the total emission from the whole installation do not exceed those that would have resulted had the substantially changed part been treated as a new installation it is treated as existing.</p>	No	<p>Where the substantial change is treated as a new installation compliance is from the date of the change.</p> <p>If the substantial change meets the conditions and it is regarded as existing installation compliance is no later than October 2007.</p> <p>The unchanged part of the installation continues to be treated as an existing installation</p>
Installations using certain volatile organic compounds with risk phrases R45,R46,R49,R60,R61 and halogenated volatile organic compounds with a risk phrase R40	Existing	Yes	<p>From the date of the Direction, ensure compliance with SED emission limit values in the shortest possible time;</p> <p>Additionally, for substances classified as carcinogenic, mutagenic or toxic to reproduction and which carry the risk phrase R45, R46, R49, R60 or R61: work towards substituting the substance within the shortest possible time.</p>
Valid application for a new installation, submitted after 1 April 2001 and permitted before 22 March 2002	New	Yes	Compliance with the SED must be achieved by 22 July 2002
Application under PPC post 22 March 2002 for a process that has not been operational prior to 1 April 2002.	New	No	SED conditions to be included in permit when issued.

Appendix 3 Text of Risk Phrases

R Phrase	Definition
R40	Possible risk of irreversible effects
R45	May cause cancer
R46	May cause heritable genetic damage
R49	May cause cancer by inhalation
R60	May impair fertility
R61	May cause harm to the unborn child

Taken from The Chemicals (Hazard Information and Packaging for Supply Amendment) Regulations. For further information visit the Health and Safety Executive website www.hse.gov.uk.