



**Fourth Report on the implementation of 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 in Ireland**

**For the reporting period:**

**1 January 2011 – 31 December 2013**

**In accordance with the questionnaire for Member States contained in Commission Decision 2010/681/EC**

**Report date: October 2014**

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**Report on the implementation of 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 in Ireland**

## **ACKNOWLEDGEMENTS**

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## Executive Summary

This report details Ireland's responses to the questions contained in the European Commission's questionnaire on the implementation of Directive 1999/13/EC as set out in Commission Decision 2010/681/EC for the reporting period 1<sup>st</sup> January 2011 – 31<sup>st</sup> December 2013. This is the 4<sup>th</sup> report on the implementation of the Directive.

The national legislation that originally implemented the solvents Directive in Ireland was replaced during this reporting period by the European Union (Installations and Activities Using Organic Solvents) Regulations 2012. For local authority regulated installations, these Regulations replace the previous Accredited Inspection Contractor (AIC) Scheme with Approved Assessors now being appointed by the EPA. Certification via the Local Authorities (LAs) still takes place as before.

Installations in Ireland that fall under the Directive are authorised either by the Environmental Protection Agency (EPA), or for those installations that do not come under the EPA's remit, by local authorities. As part of the preparation for this report, the EPA commissioned a survey of all LAs on their implementation of the Directive including all the necessary information required for the preparation of this report. A review of all EPA licences and their reports was undertaken to determine the installations that are still subject to the requirements of the Directive and to extract the information required for the preparation of this report.

The EPA undertook a number of activities during the reporting period in support of the implementation of the legislation, including establishing the National Panel of Approved Assessors, development and updating of guidance, holding workshops, auditing of local authority performance, and placing trade advertisements to highlight obligations for installations.

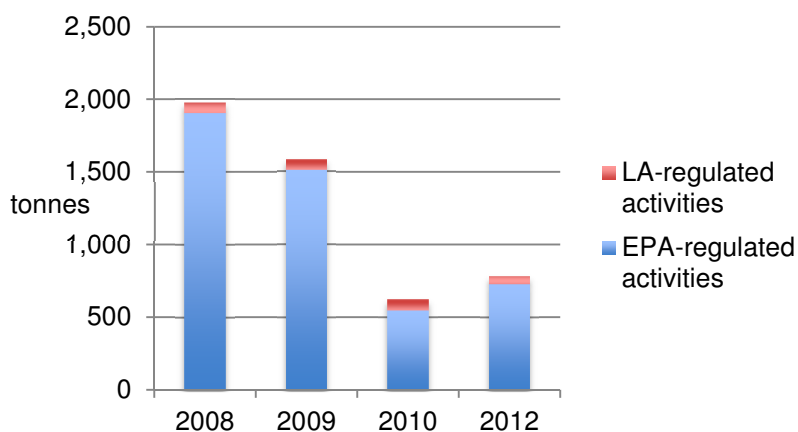
There are 298 solvents Directive activities occurring across 292 individual installations in Ireland, as at 31<sup>st</sup> December 2013. The EPA regulates 47 installations, while the LAs regulate 245 installations.

As per previous reports, a number of sites have ceased operation during the reporting period. There have been some new activities, some existing un-regulated activities identified and brought into the legislative process, some installations that have fallen below the thresholds, and some installations that were below the thresholds but are now once again above them. In the case of the latter, some EPA-regulated facilities have experienced an increase in solvent use since the 3<sup>rd</sup> report in 2010 bringing them back over the solvent consumption thresholds, primarily due to increased activity.

A number of EPA-regulated licences have been amended to fully reflect the Directive, on foot of the 3<sup>rd</sup> implementation report. In addition, this report has identified a small number of additional EPA licences that need some minor amendments to fully reflect the Directive.

The number of dry cleaning installations, at 242, has decreased from the 263 in the previous report, Note: information was not received back for part of 1 local authority area out of the 31 local authorities. This was for part of the area covered by Tipperary County Council (for the last report there were 5 dry cleaners in this area). In general across the country, some installations have ceased trading, while others are still trading, but have ceased dry cleaning on the premises, acting as a depot with the dry cleaning activity done elsewhere.

The estimate for total VOC emissions to air from solvents Directive activities, 2008 to 2012, is shown in the figure below.



Overall, across all activities, the emissions estimate has increased by 25% between 2010 and 2012. Emissions decreased significantly between 2009 and 2010, mainly as a result of reduced activity and closure of sites.

The emissions increase for EPA-regulated activities between 2010 and 2012 is a combination of some increase in activity and better quantification of existing emissions, especially fugitive emissions, albeit there are still some gaps in such emissions data.

For LA-regulated activities, emissions have dropped due to a combination of a decrease in the number of activities, and some data gaps on emissions for non-dry cleaning activities.

## Questionnaire - Response for Ireland

This report details Ireland's responses to the questions contained in the European Commission's questionnaire on the implementation of Directive 1999/13/EC as set out in Commission Decision 2010/681/EC. The solvents Directive 1999/13/EC itself has been repealed by Article 81 of the Industrial Emissions Directive 2010/75/EU (IED), with effect since 7<sup>th</sup> January 2014. In essence, the requirements of the solvents Directive have been incorporated into Chapter 5 of the IED as well under the general provisions of the IED.

Each question from Decision 2010/681/EC is shown in blue italics and Ireland's response is then given.

### **Question 1**    *General Description*

*Please report relevant changes in national legislation during the reporting period concerning Directive 1999/13/EC.*

#### **Question 1 – Response**

##### ***Changes to the National Legislation***

The national legislation that originally implemented Directive 1999/13/EC (hereinafter referred to as "the Directive"), as detailed in the first report<sup>1</sup>, was replaced during the reporting period. These Regulations are effective since 1<sup>st</sup> January 2013.

Installations in Ireland that fall under Directive 1999/13/EC are authorised either by the Environmental Protection Agency (EPA), or for those installations that do not come under the EPA's remit, by local authorities. There are 31 such local authorities in Ireland, down from 34 during the previous period, due to some administrative (local government) area mergers.

The main aim of the new legislation<sup>2</sup> is to introduce a new Approved Assessor scheme for the non-EPA regulated activities that fall under Directive 1999/13/EC. This Approved Assessor scheme replaces the previous Accredited Inspection Contractor (AIC) Scheme. It is essentially the same approach except that Approved Assessors are now appointed by the EPA, whereas under the AIC Scheme appointment was by the Irish National Accreditation Board (INAB). Certification via the Local Authorities (LAs) still takes place as before.

The revision to the legislation also allowed the opportunity to incorporate some changes, based on the experience of a number of years of operation. The Network for Ireland's Environmental Compliance and Enforcement (NIECE) Air and Solvents Working Group, chaired by the EPA, made particular suggestions to the Department of the Environment, Community and Local Government for improvements to the legislation. Changes made included:

- The duration of certification by LAs is now up to 3 years (this was previously an annual requirement). This should help reduce the administrative burden for companies and LAs. Certificates of a shorter duration may be issued if the LA has concerns about a specific installation, including failure to renew certificates in time.
- Compliance reports were previously required to be prepared by AICs and submitted by the operator on an annual basis. Since certification can now be for up to 3 years, there is no longer an annual requirement for submission of such compliance reports. This should help reduce the financial burden for companies. There is provision in the revised Regulations for annual reporting by the operator. The operator must maintain data (such as a solvent management plan) that would enable the LA to verify compliance with the Regulations.
- Operators are required to display a valid Certificate of Compliance at their premises in a prominent location. This helps ensure awareness of the Regulations.
- The fine for uncertified operators has increased from €3,000 to €5,000 or imprisonment for up to six months, or both.

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<sup>1</sup> Any reference to the "first report", "second report", or "third report" throughout this document means the first, second and third reports to the European Commission on the implementation of Directive 1999/13/EC in Ireland. All three have been published by the Environmental Protection Agency and the Department of the Environment, Heritage, and Local Government, and are available at [www.epa.ie](http://www.epa.ie).

<sup>2</sup> European Union (Installations and Activities Using Organic Solvents) Regulations 2012 (S.I. No. 565 of 2012).

### ***Additional activities carried out by the EPA in support of changes to the national legislation and its effective implementation***

As outlined above, responsibility for implementation of the Directive and associated national regulations lies with both the EPA and local authorities (mainly dry-cleaners in the case of local authorities). In addition, the EPA has a role in over-seeing the statutory performance of LAs in Ireland.

In support of such activities, the EPA has undertaken the following during this three year reporting period:

#### **1. Establishment of a National Panel of Approved Assessors**

In September 2013, the EPA established a National Panel of Approved Assessors who are appointed by the Board of the EPA to carry out the compliance inspections. This followed a lengthy application and evaluation process. Since appointment, the approved assessors are periodically audited by the EPA and are required to submit quarterly reports to both the EPA and the LAs. This panel replaced those bodies that were previously accredited by the Irish National Accreditation Board.

#### **2. Guidance**

The EPA has prepared and updated guidance documents to be used by operators to prepare them for the relevant compliance inspections. This guidance is available on the EPA website at

<http://www.epa.ie/pubs/reports/air/solvents/bestpracticeguidelinesfordrycleaners2012.html>

The EPA has also prepared guidance for use by the Approved Assessors who undertake the compliance inspections. This guidance was prepared to ensure consistency in the manner in which the inspections are carried out, in addition to standardising the categories for non-compliances.

The EPA has also prepared Guidance and Information Notes for use by LAs in relation to enforcement issues.

#### **3. Media Activities**

Periodically, the EPA prepares press releases for National and Regional newspapers.

The EPA has placed a number of adverts in relevant trade magazines to remind operators of their obligations.

#### **4. Establishment of a Working Group**

In order to support the enforcement efforts of LAs, the EPA has established a working group consisting of members from the majority of the LAs. This group meets once or twice a year, where it provides a forum for the exchange of experiences and the raising of common issues of concern. This working group is organised and chaired by the EPA and includes participation from the Department of the Environment, Community and Local Government.

A specific work group page for Solvents has been included on the NIECE website (Network for Ireland's Environmental Compliance and Enforcement) for use by LAs and the EPA. This page includes any new updates in relation to compliance issues, copies of all guidance issued, a discussion thread for use by LAs, as well as details of any upcoming events.

#### **5. LA Workshops and Training**

The EPA has prepared and delivered workshops and specific training for LAs to ensure more effective enforcement of the Regulations.

#### **6. Auditing of Local Authority Performance**

The EPA carries out integrated audits of LAs in order to assess the performance of their statutory functions in relation to environmental protection. The scope of these audits includes a review of the LA activities in relation to the implementation of the Solvent Regulations.



## **Question 2.1 & 2.2 Coverage of Installations**

2.1. For each of the 20 activities of Annex II.A.1 and Annex II.A.2, please indicate how many installations covered by Directive 1999/13/EC fall into the categories set out below on 31 December 2013:

— total number of installations,

— total number of installations which are also covered by Directive 2008/1/EC of the European Parliament and of the Council (IPPC Directive),

— total number of installations, which are registered/authorised according to Directive 1999/13/EC,

— total number of installations which are registered/authorised using the reduction scheme,

— total number of installations which have been granted derogation according to Article 5(3)(a) of Directive 1999/13/EC. Please provide a list of the installations concerned and provide for each of them the justification for the derogation issued,

— total number of installations which have been granted derogation according to Article 5(3)(b) of Directive 1999/13/EC. Please provide a list of the installations concerned and provide for each of them the justification for the derogation issued.

2.2. For each of the 20 activities of Annex II.A.1 and the activities of Annex II.A.2, please indicate how many installations covered by Directive 1999/13/EC fall into the categories set out below:

- total number of new installations, which were registered/authorised according to Directive 1999/13/EC during the reporting period,
- total number of substantially changed installations, which were registered/authorised according to Directive 1999/13/EC during the reporting period.

### **Question 2.1 and 2.2 – Response**

Tables 2-1 to 2-3 summarise the information required for both parts 2.1 and 2.2 of this question (question 2.3 is answered separately). Table 2-1 details the data for *all* installations, Table 2-2 for EPA regulated installations only, and Table 2-3 for LA installations only. All tables are as at 31<sup>st</sup> December 2013.

The following are explanations for the first 4 columns in Table 2-1:

- Column 1: *Total registered/authorised (EPA and LA)*: This is the total number of authorisations under each class of activity, as at 31 December 2010. It includes those under both the EPA and LA systems. The sum of the individual activities is slightly larger than the total number of authorisations as at 31 December 2013, since some sites have more than 1 activity.
- Column 2: *Total Regulated by EPA*: This is the total number of authorisations in accordance with the Irish licensing legislation, under each class of solvents Directive activity, as at 31 December 2013. While the IPPC Directive has now been replaced by the Industrial Emissions Directive, the IPPC Directive was still in effect throughout the reporting period. Since the Irish licensing system has an additional class of activity compared to either the IPPC Directive or the Industrial Emissions Directive, namely for any site with organic solvent usage above a threshold of 10 tonnes per annum, there are more sites licensed by the EPA than the number that came within the scope of the IPPC Directive.
- Column 3: *Total licensable under the EU IPPC Directive*: This is the total number of authorisations that came within the scope of the IPPC Directive, under each class of solvents Directive activity, as at 31 December 2013. Note, some installations came within the scope of the IPPC Directive for activities other than solvent use, for example, electroplating or pharmaceutical manufacture.
- Column 4: *Total no. of installations authorised according to Directive 1999/13/EC*: This is the total number of authorisations that have incorporated all the relevant requirements of the

solvents Directive into the authorisation (licence or certificate of compliance), under each class of activity, as at 31 December 2013. It includes both EPA and LA regulated installations.

A separate column has been added to Table 2-1 and 2-2 to distinguish between sites which are IPC licensed in Ireland and those which also fall under the EU IPPC Directive.

As part of the preparation for this report:

- The EPA commissioned a survey of all LAs (a total of 31 authorities), who are the competent authorities for LA-regulated installations, on their implementation of Directive 1999/13/EC. This survey questionnaire included all the necessary information required for the preparation of this report to the Commission. The results of the survey were utilised in compiling the responses to this questionnaire.
- A review of all EPA licensed sites was undertaken to determine the installations that are still subject to the requirements of Directive 1999/13/EC. The relevant information required for the preparation of this report was extracted from reporting and other documentation relating to the installations.

**Table 2-1: Data at the end of the reporting period - 31 December 2013 - EPA and LA regulated installations**

<b>As at 31 December 2013</b>		Total registered /authorised (EPA and LA)	Total Regulated by EPA	Total licensable under the EU IPPC Directive	Total authorised according to solvents Directive 1999/13/EC	Total registered/ authorised using the reduction scheme	Total granted derogations under Art 5(3)(a)	Total granted derogations under Art 5(3)(b)	Total new during reporting period	Total substantially changed during reporting period
1	Heatset web offset printing (> 15)	1	1		1					
2	Publication rotogravure (> 25)									
3	Other rotogravure, flexography, rotary screen printing, laminating or varnishing (> 15) rotary screen printing (> 30)	6	6		5					1
4	Surface cleaning using compounds specified in Articles 5(6) and (8) (>1)	2	2	1	1					
5	Other surface cleaning (> 2)	8	6	3	6	2		1	3	
6	Vehicle coating (< 15) & vehicle refinishing									
7	Coil coating (> 25)									
8	Other coating, incl. metal, plastic, textile, fabric, film and paper coating (> 5)	24	23	3	22	6		4	1	5
9	Winding wire coating (> 5)									
10	Coating of wooden surfaces (> 15)	2	2	1	1					
11	Dry cleaning	242			242				8	
12	Wood impregnation (> 25)	1	1		1					
13	Coating of leather (> 10)									
14	Footwear manufacture (> 5)									
15	Wood and plastic lamination (> 5)	1	1		1					
16	Adhesive coating (> 5)	3	3		2					
17	Manufacture of coating preparations, varnishes, inks and adhesives (> 100)	6	6		5					
18	Rubber conversion (> 15)									
19	Vegetable oil & animal fat extraction and vegetable oil refining activities (> 10)									
20	Manufacturing of pharmaceutical products (> 50)	2	2	2	2					1
<b>TOTAL*</b>		<b>292</b>	<b>47</b>	<b>10</b>	<b>285</b>	<b>8</b>		<b>4</b>	<b>12</b>	<b>7</b>

\* For those regulated by the EPA, the total number of installations is not always the sum of the installations for individual activities, since some installations carry out more than one activity.

**Table 2-2: Data at the end of the reporting period - 31 December 2013 – EPA regulated installations**

As at 31 December 2013		Total Regulated by EPA	Total licensable under the IPPC Directive	Total authorised according to solvents Directive 1999/13/EC	Total registered/ authorised using the reduction scheme	Total granted derogations under Art 5(3)(a)	Total granted derogations under Art 5(3)(b)	Total new registered/ authorised during reporting period	Total substantially changed registered/ authorised during reporting period
1	Heatset web offset printing (> 15)	1		1					
2	Publication rotogravure (> 25)								
3	Other rotogravure, flexography, rotary screen printing, laminating or varnishing (> 15) rotary screen printing (> 30)	6		5					1
4	Surface cleaning using compounds specified in Articles 5(6) and (8) (>1)	2	1	1					
5	Other surface cleaning (> 2)	6	3	5			1	1	
6	Vehicle coating (< 15) & vehicle refinishing								
7	Coil coating (> 25)								
8	Other coating, incl. metal, plastic, textile, fabric, film & paper coating (> 5)	23	3	22	5		4	1	5
9	Winding wire coating (> 5)								
10	Coating of wooden surfaces (> 15)	2	1	1					
11	Dry cleaning								
12	Wood impregnation (> 25)	1		1					
13	Coating of leather (> 10)								
14	Footwear manufacture (> 5)								
15	Wood and plastic lamination (> 5)	1		1					
16	Adhesive coating (> 5)	3		2					
17	Manufacture of coating preparations, varnishes, inks and adhesives (> 100)	6		5					
18	Rubber conversion (> 15)								
19	Vegetable oil & animal fat extraction & vegetable oil refining activities (> 10)								
20	Manufacturing of pharmaceutical products (> 50)	2	2	2					
<b>TOTAL*</b>		<b>47</b>	<b>10</b>	<b>41</b>	<b>5</b>	<b>0</b>	<b>4</b>	<b>2</b>	<b>7</b>

\* For IPPC, the total number of installations is not always the sum of the installations for individual activities, since some installations carry out more than one activity.

**Table 2-3: Data at the end of the reporting period - 31 December 2013 - LA regulated installations**

	<b>As at 31 December 2013</b>	Total regulated by local authorities	Total authorised according to solvents Directive 1999/13/EC	Total authorised using the reduction scheme	Total granted derogations under Art 5(3)(a)	Total granted derogations under Art 5(3)(b)	Total new installations registered/ authorised during reporting period	Total substantially changed installations registered/ authorised during reporting period	Suspected but not yet registered under AIC scheme*	Total number of installations (registered/ authorised +suspected but not yet registered under AIC scheme)
1	Heatset web offset printing (> 15)									
2	Publication rotogravure (> 25)									
3	Other printing (> 15)									
4	Surface cleaning using compounds specified in Articles 5(6) and (8) (>1)								7	7
5	Other surface cleaning (> 2)	2	1	2			2		18	20
6	Vehicle coating (< 15) and vehicle refinishing									
7	Coil coating (> 25)									
8	Other coating, including metal, plastic, textile, fabric, film and paper coating (> 5)	1	1	1					8	9
9	Winding wire coating (> 5)								1	1
10	Coating of wooden surfaces (> 15)									
11	Dry cleaning	242	242				8		80	317
12	Wood impregnation (> 25)									
13	Coating of leather (> 10)									
14	Footwear manufacture (> 5)									
15	Wood and plastic lamination (> 5)								12	12
16	Adhesive coating (> 5)								1	1
17	Manufacture of coating preparations, varnishes, inks and adhesives (> 100)									
18	Rubber conversion (> 15)									
19	Vegetable oil & animal fat extraction (> 10)									
20	Manufacturing of pharma products (> 50)	1	1	1					1	1
<b>TOTAL</b>		<b>245</b>	<b>244</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>128</b>	<b>373</b>
* This is anticipated to be an overestimate										

### *Installations authorised by the Environmental Protection Agency (EPA)*

There are 47 installations regulated by the Environmental Protection Agency (EPA) whose activities come under the solvents Directive as at 31 December 2013, and in relation to these sites:

- A number of sites have ceased operation during the reporting period. Of particular note is that the single largest emitter for the last two reports is one of the 3 installations that have closed [Licence ref. P0119, P0115, P0645]. This was a printer of packaging whose parent multinational corporation took the decision to cease its operation in Ireland. In addition, a further site is in the process of closing down since December 2013, and its solvent consumption dropped below the relevant 'other coating' threshold during the reporting period [P0275].
- Two new activities are included in the above 47. One involves a new process under Directive 1999/13/EC on an existing medical devices site that did not need to be previously regulated [P0973]. This site is in the process of being licensed by the EPA. The second involves a new company operating an aerospace coating facility and has received its licence from the EPA [P0921].
- There are 2 existing sites which were identified as being subject to the regulations and are now being brought under the EPA's licensing system. These are included as being registered during the reporting period and are within the 47 installations mentioned above [P0969, P0988].
- Four of the EPA-regulated installations which had fallen below the solvent consumption for the 3<sup>rd</sup> report in 2010 have since experienced an increase in solvent use, primarily due to increased activity in all cases, and in one case what appears might be a slow-down in the site's conversion to water-based printing inks. Thus, the Directive is relevant to these sites once again. These sites had continued to be licensed by the EPA [P0244, P0643, P0674, P0782].
- A number of EPA-regulated licences have been amended to fully reflect Directive 1999/13/EC, on foot of the 3<sup>rd</sup> report on implementation of the Directive.
- While all of the licences identified in the 3<sup>rd</sup> report were amended to fully include Directive 1999/13/EC, there are still a small number of existing EPA licences which may need to be amended, in order to fully reflect the Solvents Directive. This includes the following:
  - The licence for a site which was no longer relevant at the time of the 3<sup>rd</sup> report was not highlighted as being in need of amendment. There are no ELVs or fugitive emission limits set in the licence.
  - An installation that is already correctly licensed in accordance with Directive 1999/13/EC for class 12 and 15 activities, may also be relevant to Classes 4, 10, and 16. Further investigation is necessary to determine the applicability of these activity classes [P0639].

Aside from these 2 sites, the remaining difference between the figure of 41 "authorised according to solvents Directive 1999/13/EC" and the figure of 47 sites in total in Table 2-2 is due to the remaining 4 installations being in the licence application process.

- Substantially changed sites: There were 7 sites already licensed by the EPA that underwent substantial changes as defined in Directive 1999/13/EC during the period, i.e. specified increases in emissions of VOCs. These were all for increases in the existing activity. In 4 cases the licence already accommodated the increase (e.g. specifying the appropriate limits above and below the relevant consumption levels), the class of activity in question did not differentiate between new or existing activities, or the increase was of no relevance since the site had already been treated as a new activity [P0146 P0674, P0855, P0918]. There were 3 cases of substantial changes where the licences were technically amended to reflect the Directive [P0264, P0571 and P0643].
- There are 7 EPA-licensed sites which were relevant for some or all of the previous reporting period (Jan 2008 – Dec 2010) but have now dropped below the solvent consumption threshold as at 31<sup>st</sup> December 2013.

### *Installations authorised by Local Authorities (LAs) – Dry Cleaners*

Dry cleaners are the single largest solvents Directive activity in terms of numbers of individual installations. The number of dry cleaning installations that have been registered and authorised by

LAs, and which as far as LAs are aware can be assumed to be in operation at the end of 2013, stands at 242 installations. Note: information was not received back for part of one LA area out of the 31 LA areas in total. This is for part of the area covered by Tipperary County Council (for the last report there were 5 dry cleaners in the unreported part of this area).

It is important to note that some of these installations in operation have compliance reports outstanding (see question 5 on compliance).

This number of dry cleaning installations has decreased since the previous report, where the number registered/authorised was 263 dry cleaning installations at the end of 2010 as shown in Table 2-4. There would appear to be a net decrease in dry cleaning activity, albeit there have been premises both closing and opening in the period, and there is the additional data gap for Tipperary County Council.

**Table 2-4: Dry Cleaning Installations – Summary of registered numbers of installations 2007 - 2012**

No of registered dry cleaners at year end				
2007	2008	2009	2010	2012
229	264	267	263	242*

\* excluding part of the functional area for Tipperary County Council, which provided data for only part of its area; the unreported area had 5 installations in the previous report.

Table 2-5 shows a summary of activity in the sector. Some installations have ceased trading. Some premises are still trading, but have ceased dry cleaning on the premises. Often the shop is acting as a collection depot for dry cleaning or offering other services like laundering. A number of shops would appear to have taken this route. In fact one LA in a border county area noted that for the owner of one particular premises, the dry cleaning is now being performed by this company in Northern Ireland.

**Table 2-5: Dry Cleaning Installations – Summary of changes in the registered numbers of installations for the reporting period 2008 - 2012**

Dry Cleaners	During the reporting period	Since the reporting period	Total
Closures	19	-	19
Installations that stopped dry cleaning (dry cleaning is no longer carried out on the premises, but still open as a depot, or carry out other activities like laundering, etc.)	7	1	8
New facilities	8	1	9

#### *Estimates of installations not yet authorised by LAs – Dry Cleaners*

LAs were asked to estimate the number of installations not yet authorised. The total estimates that came back for dry cleaning are an estimated 80 dry cleaners that are not registered/authorised. It is considered that this may be an over-estimate.

#### *Installations authorised by LAs – Other than Dry Cleaners*

Table 2-6 shows the number of installations registered with LAs (i.e. non-IPPC) for activities other than dry cleaning.

**Table 2-6: LA-regulated Installations, other than dry cleaners – Summary of registered numbers of installations end of 2007, 2010, and 2013**

Number registered at year end	2007	2010	2013
Other coating	3	2	1
Other surface cleaning	3	1	2
Pharmaceutical product manufacture	0	1	0
<b>TOTAL</b>	<b>6</b>	<b>4</b>	<b>3</b>

Two of the three sites reported for 2013 are new to the reporting period, though they are existing installations. The Pharmaceutical product manufacturer that was operating at the end of 2010 is located in the Tipperary County Council area, so no update has been received on this installation.

### **Estimates of installations not yet authorised by LAs – Other than Dry Cleaners**

LAs provided an estimate of 48 un-registered activities other than dry cleaners, but again this is likely an over-estimate. Some more detail is given on this in question 5.

#### **Use of the Reduction Scheme**

At the end of the reporting period, there are 8 activities authorised to use the reduction scheme:

- All of the 3 LA-authorised installations other than dry cleaners as at December 2013 have been authorised to use the reduction scheme. In one case the site has devised its own reduction scheme (comes under Class 5 Other Cleaning and is currently not in compliance), while the other 2 are using the reduction scheme under the Directive (one under Class 8 Other Coating and the other Class 5 Other Cleaning). Two of these 3 are new to the reporting period, although they are existing installations.
- 5 of the EPA-licensed sites are authorised to use the reduction scheme in accordance with the Directive. All 5 are under Class 8 'other coating'. One of these is new to the reporting period.

#### **Derogations granted under Articles 5(3)(a) or 5(3)(b)**

The Annex to this report contains a list of derogations given and the reasons for every derogation issued. These are the same derogations under Article 5(3)(b) (uncontained conditions) as reported in the last (3<sup>rd</sup>) report, with no new derogations granted in the reporting period. There were no derogations granted under Article 5(3)(a) (fugitive limit derogation).

### **Question 2.3 Public Availability of Information**

*2.3 Please report how the list of authorised and registered installations and the results of emission monitoring are made available to the public, according to Article 12(1) and (2) of Directive 1999/13/EC. In case this information is publicly available on the Internet, please indicate the URL. If this is not the case, please indicate the contact details where the information can be requested.*

#### **Question 2.3 – Response**

Installations in Ireland that fall under the solvents Directive are authorised either by the EPA, or for those installations that do not come under the EPA's remit, by LAs.

#### **EPA-authorised Installations**

The EPA maintains a database of all installations that it authorises under a number of different Directives, including the solvents Directive. This database is available at:

[http://www.epa.ie/terminalfour/jppc/index.jsp#.U\\_dVhEgXQ0w](http://www.epa.ie/terminalfour/jppc/index.jsp#.U_dVhEgXQ0w)

The information contained in this on-line database includes, among other information, the details of the company (Name, address, licence number and class of activity), a copy of the licence itself, the inspectors report (prepared as part of the licensing process, which will detail the conditions given, how the Directive applies and how the licence will ensure compliance with the Directive, as well as any environmental impact based on modelling of emissions), and the Annual Environmental Report submitted by the companies (which is required to contain information on emissions amounts, emission limit results and compliance and the solvent management plan summary details).

#### **LA-authorised Installations**

A list of installations certified in accordance with Directive 1999/13/EC along with addresses is maintained on the websites of 21 of the 31 LAs. This is as a result of a requirement brought in by the revised 2012 Regulations described above. A link to the websites of all 31 LAs is available by clicking on the map at [www.lgcsb.ie/en/irish-local-government](http://www.lgcsb.ie/en/irish-local-government). All the LAs are also required to keep copies of certificates of compliance available at their offices for public inspection. Information on any air emissions monitoring for Directive 1999/13/EC installations regulated by the LAs is to be included in such publicly available files.



### Question 3 Substitution

For each of the 20 activities of Annex II.A.1 and activities of Annex II.A.2, please indicate which of the following substances or mixtures are still used on 31 December 2013 and in which (estimated) amounts (tonnes per year): substances or mixtures which, because of their content of volatile organic compounds, classified as carcinogens, mutagens, or toxic to reproduction under Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, are assigned or need to carry the hazard statements H340, H350, H350i, H360D or H360F or the risk phrases R45, R46, R49, R60 or R61.

Please indicate, where such information is available, the substances using their IUPAC name and their CAS number and the mixtures using one commercial name and indicating the relevant substances they contain.

Please also list substances which are used as substitutes for the abovementioned substances and mixtures (optional).

#### Question 3 – Response

The following table 3-1 indicates known usage of substances or mixtures classified as carcinogens, mutagens, or toxic to reproduction with the specified hazard statements or risk phrases (CMRs) as at 31 December 2013. Table 3-1 shows individual substances concerned, along with a commercial mixture name where relevant, while Table 3-2 provides information by class of solvents Directive activity.

**Table 3-1 Estimated amounts of CMRs in use as at December 2010, by individual substance**

CMR Substance	Class	Usage (tonnes)			
		2008	2009	2010	2012
Dimethylacetamide (DMAC) (CAS 127-19-5) (R61)	8	35	21	43	2
N-methylpyrrolidone (CAS 872-50-4) (R61)	5	3.9	3.8	24	24
	8	0	11.7	3.8	24
	20	0	0	2.1	3.1
Diisobutyl phthalate (CAS 84-74-2) (R61)	3	0	5.9	7.2	0
1,2 Dichloroethane (CAS 107-06-2) (R45)	20	0.11	0.11	0.045	0
Dimethylformamide (CAS 68-12-2) (R61)	8	0.01	0.006	0.00007	1
2-methoxyethanol (CAS 109-86-4) (R60, 61)	8	0.01	0.006	0.00008	0.75
Unspecified CMRs	5	-	-	-	10
<b>Total</b>		<b>39</b>	<b>43</b>	<b>80</b>	<b>67</b>
Excluding 1 activity no longer relevant in 2010				<b>78</b>	<b>-</b>

**Table 3-2 Estimated amounts of CMRs in use, 31 December 2013, by class of activity**

Class	Usage (tonnes)			
	2008	2009	2010	2012
3 Other printing	0	5.9	7.2	0
5 Other surface cleaning	3.9	3.8	24	34
8 Other coating	35	33	47	30
20 Pharmaceutical product manufacture <sup>3</sup>	0	0	0	0
<b>TOTAL</b>	<b>39</b>	<b>43</b>	<b>78</b>	<b>64</b>

In terms of substitution, these installations are examining alternatives. However, in some cases this is proving difficult.

No CMRs that require substitution are in use by the authorised non-IPPC activities (since perchloroethylene is classed as R40 and not in the above list) and none of the other installations use such substances.

Companies using CMR VOC solvents have had conditions inserted in their licences to identify and substitute such CMRs, and these companies report the efforts that have been made to find alternatives in their Annual Environmental Reports.

## **Question 4 Monitoring**

*For each of the 20 activities of Annex II.A.1 and activities of Annex II.A.2, please indicate for 2012 the number of installations which are monitored continuously for compliance according to Article 8(2) of Directive 1999/13/EC.*

### **Question 4 – Response**

#### **Continuous monitoring for compliance**

The number of installations where VOC emissions are monitored continuously for compliance is set out in Table 4-1.

Article 8(2) of the Directive specifies the requirement for continuous monitoring in relation to emission points that emit more than an average of 10 kg/hour of total organic carbon. Some of these installations are below this average value but have continuous monitoring in place in any case.

Due to the scale of the threshold for this requirement, i.e. emitting more than an average of 10 kg/hour of total organic carbon, and considering Ireland operates an additional category where installations making or using more than 10 tonnes per year of VOC coating materials are also regulated by the EPA, only EPA-regulated facilities are relevant to this question.

**Table 4-1: Number of installations with continuous VOC emissions monitoring, including by Class of activity**

<b>Total no of installations with continuous VOC monitoring as at 31 December 2013:</b>	8 installations of the 47 IPPC licensed
<b>By Class of Activity:</b>	
3. Other printing	1 installation
5. Other surface cleaning	2 installations
8. Other coating	3 installations
16. Adhesive coating	1 installation
20. Pharmaceutical products	1 installation

<sup>3</sup> There were minor amounts of a CMR reported in the last report for a pharmaceutical manufacturing facility. However, this has been clarified as being in use in the laboratory situation and is outside the scope of the Directive. Hence these are now taken as zero.

## Question 5 Compliance

For each of the 20 activities of Annex II.A.1 and activities of Annex II.A.2, please indicate the following figures for 2012:

- Number of operators who have been found to have breached the requirements of Directive 1999/13/EC:
  - (a) Because the data referred to Article 8(1) of Directive 1999/13/EC was either not reported or was insufficient to enable the competent authorities to verify compliance;
  - (b) Related to non-compliance with other requirements of Directive 1999/13/EC, in particular with the provisions of Articles 3(2) and 4(2), Article 5, and Article 8(2) and (3),
- Number of installations for which the competent authorities have suspended or withdrawn the authorisation in the case of non-compliance pursuant to Article 10(b) of Directive 1999/13/EC.

### Question 5 (a) Not reported or insufficient data – Response

Ireland has implemented an annual reporting obligation for all installations.

For LA-regulated installations, the change in legislation during the reporting period has changed the reporting requirements. The previous Regulations as detailed in the earlier implementation reports were in effect for the years 2011 and 2012, while the revised 2012 Regulations outlined in the response to question 1 were in effect for the year 2013. Compliance reports were previously required to be prepared by AICs and submitted by the operator on an annual basis. Since certification under the revised Regulations can now be for up to 3 years, there is no longer an annual requirement for submission of such compliance reports. There is provision in the revised Regulations for annual reporting by the operator; with the first annual report under the revised Regulations required for the 2014 calendar year. Thus, there was an annual reporting requirement for LA-regulated installations for 2011 and 2012, but not for 2013. However, operators are required to compile and maintain such records for inspection, when required.

For installations regulated by the EPA, the annual reporting obligation is fulfilled through submission of the Annual Environmental Report (AER) by 31 March each year.

The number of installations that have not complied with this annual reporting requirement, or provide insufficient information to verify compliance with one or more aspects of the legislation, are set out in Tables 5-1 and 5-2 for EPA-regulated installations.

**Table 5-1: Number of EPA-regulated installations that have either not complied with the annual reporting requirement, or provided insufficient information to verify compliance - total**

	Did not meet the annual reporting requirement for 1 or more years	Insufficient information to verify compliance with Directive 99/13/EC	<b>Total</b>
<b>Number of EPA-regulated installations</b>	5	19	24
As a % of all installations	11%	40%	51%

It can be seen from these tables that there is reasonable compliance with the annual reporting requirement for EPA-regulated facilities. However, the information provided in some of the reports is insufficient to fully verify compliance with Directive 1999/13/EC.

The type of information that was insufficient to verify compliance primarily related to absence of comparison against fugitive emission limits and insufficiently completed solvent management plans.

**Table 5-2: Number of EPA-regulated installations that have not fully complied with the annual reporting requirement – by class of activity**

<b>Class of Activity</b>	<b>Did not meet the annual reporting requirement for 1 or more years</b>	<b>Insufficient information to verify compliance with Directive 99/13/EC</b>	<b>Total</b>
1. Heatset web offset printing	1	1	2
2. Publication rotogravure	-	-	-
3. Other printing	-	1	1
4. Surface cleaning using specified compounds	1	-	1
5. Other surface cleaning	-	-	-
6. Vehicle coating and vehicle refinishing	-	-	-
7. Coil coating	-	-	-
8. Other coating	2	8	10
9. Winding wire coating	-	-	-
10. Coating of wooden surfaces	-	2	2
11. Dry cleaning	-	-	-
12. Wood impregnation	-	-	-
13. Coating of leather	-	-	-
14. Footwear manufacture	-	-	-
15. Wood and plastic lamination	-	-	-
16. Adhesive coating	-	-	-
17. Manufacture of coatings	-	6	6
18. Rubber conversion	-	-	-
19. Vegetable oil and animal fat extraction	-	-	-
20. Manufacturing of pharmaceutical products	1	1	2
<b>TOTAL<sup>4</sup></b>	<b>5</b>	<b>19</b>	<b>24</b>

The number of installations that have not complied with the annual reporting requirement during the reporting period is set out in Table 5-3 for dry cleaners and other LA-regulated installations. About 14% of installations have not complied with the reporting requirement.

Table 5-3 also notes the number of installations as at December 2013, for which the Certificate of Compliance has expired. It should also be commented on that it would appear in some cases that the facility to extend the certificates of compliance for up to 3 years may have been given on occasion by some LAs without all required reports having been submitted.

With the advent of the revised 2012 Regulations, as outlined in the response to Question 1, a change in the annual reporting requirements for LA-regulated installations was introduced. The 2012 Regulations took effect on the 1<sup>st</sup> January 2013. The Best Practice Guidelines were amended to reflect the revised Regulations, noting that the first annual report under the revised Regulations is due to be submitted to LAs by 31<sup>st</sup> January 2015, covering the 2014 reporting year. Thus, there is in effect an exemption from reporting for the year 2013. This is allowed for by the Directive, since a Member State can decide for installations to report either “once a year” or “on request”.

Under the previous Regulations, the annual reporting requirement for an installation did not cover a calendar year, rather the 12 months starting on the anniversary of the date of first registration. Thus, the 12-month period covered by a report varied from installation to installation. This has now been normalised to a calendar year by the revised Regulations. So, the question regarding the “number of

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<sup>4</sup> Note: Some sites have more than one activity. Where this is the case, the reporting has been noted in both classes, but the total is for total number of installations only.

installations for which there are overdue annual reports as at 31 December 2013” in relation to LA-regulated installations is only in relation to those that have not reported up until the end of 2012.

All other LA-regulated installations were determined as compliant from a reporting perspective.

**Table 5-3: Information on non-compliances with annual reporting – LA-regulated installations**

<b>Dry Cleaning (Class 10)</b>	
Number of LA-regulated installations as at December 2013: 242	
Number of installations for which there are overdue annual reports covering the period up to the end of 2012	33 (14%)
Number of installations which have reported since, but for which there are some reporting gaps within the period Jan 2011 - Dec 2012	34 (14%)
Number of installations for which it is unknown if there are overdue annual reports covering the period up to the end of 2012	36 (15%)
Number of installations as at December 2013, for which the Certificate of Compliance has expired	36 (15%)
<b>Other Cleaning (Class 5)</b>	
Number of LA-regulated installations as at December 2013: 2	
Number of installations for which there are overdue annual reports for some or all of the period Jan 2011 - Dec 2013	1
Number of installations as at December 2013, for which a Certificate of Compliance has yet to be issued (this site is not in compliance)	1
Number of installations as at December 2013, for which the Certificate of Compliance has expired	0
<b>Other Coating (Class 8)</b>	
Number of LA-regulated installations as at December 2013: 1	
Number of installations for which there are overdue annual reports for some or all of the period Jan 2011 - Dec 2013	1
Number of installations as at December 2013, for which the Certificate of Compliance has expired	0

Table 5-4 outlines the summary combined numbers across all installations.

**Table 5-4: Information on annual reporting – All installations**

Class of Activity	Installations that did not meet 1 or more years annual reporting requirements, or provided insufficient information to verify compliance		
	EPA-regulated	LA-regulated	Total
1. Heatset web offset printing	2	-	2
2. Publication rotogravure	-	-	-
3. Other printing	1	-	1
4. Surface cleaning using specified compounds	1	-	1
5. Other surface cleaning	-	1	1
6. Vehicle coating and vehicle refinishing	-	-	-
7. Coil coating	-	-	-
8. Other coating	10	1	11
9. Winding wire coating	-	-	-
10. Coating of wooden surfaces	2	-	2
11. Dry cleaning	-	103	103
12. Wood impregnation	-	-	-
13. Coating of leather	-	-	-
14. Footwear manufacture	-	-	-
15. Wood and plastic lamination	-	-	-
16. Adhesive coating	-	-	-
17. Manufacture of coatings	6	-	6
18. Rubber conversion	-	-	-
19. Vegetable oil and animal fat extraction	-	-	-
20. Manufacturing of pharmaceutical products	2	-	2
<b>TOTAL</b>	<b>24</b>	<b>105</b>	<b>129</b>

**Question 5 (b) Non-compliances with the Directive itself**

*5 (b) For each of the 20 activities of Annex II.A.1 and activities of Annex II.A.2, please indicate the following figures for 2012:*

*Number of operators who have been found to have breached the requirements of Directive 1999/13/EC:*

*Related to non-compliance with other requirements of Directive 1999/13/EC, in particular with the provisions of Articles 3(2) and 4(2), Article 5, and Article 8(2) and (3).*

**Question 5 (b) Non-compliances with the Directive itself – Response**

Articles 3(2) and 4(2), Article 5, and Article 8(2) and (3) relate to the following: being registered/authorised; either meeting ELVs, using the reduction scheme or being granted derogations, and substituting CMR materials as far as possible.

***EPA-regulated installations***

12 EPA licensed installations had non-compliances in 2012. Table 5-5 reports this information by class of activity.

**Table 5-5: Non-compliances – EPA-regulated installations, by class**

<b>Number of EPA-regulated installations:</b>	
<b>Class</b>	<b>Having non-compliances with specific requirements of the Directive (other than reporting)</b>
3 printing (other)	3
8 Other coating	8
16 Adhesive coating	1
<b>Total</b>	<b>12 Installations</b>

Non-compliances involved breaches of emission limit values in waste gases and/or breaches of fugitive emission limits.

All non-compliances are investigated by the EPA and the licensee is required to take corrective and preventative action as required. In 2 more significant cases, steps have been taken which have resulted in the sites now complying with the Directive's requirements, e.g. P0093 that has installed a Regenerative Thermal Oxidiser (RTO) and now meets both the ELVs and the fugitive limit (following on from a prosecution).

The only relevant prosecution taken by the EPA in the time-period is as follows:

- May 2013: a successful prosecution of PPI Adhesive Products [P0093] for failing to monitor emissions to the atmosphere from the Regenerative Thermal Oxidiser and four counts of exceeding emission limit values to the atmosphere.

#### ***LA-regulated installations***

Table 5-6 outlines the non-compliances for LA-regulated installations, divided by activity class.

**Table 5-6: Non-compliances – LA-regulated installations**

<b>DRY CLEANING (CLASS 11)</b>	
Number of installations having non-compliances with specific requirements of the Directive, such as not meeting the dry cleaning emission limit value	16 (7%)
Number of installations having non-compliances for not having Certificate renewed in time (a non-compliance with the Irish Regulations)	32* (13%)
<b>OTHER CLEANING (CLASS 5)</b>	
Number of installations having non-compliances with specific requirements of the Directive	1

In terms of LA-regulated installations, the following has been found in relation to breaching the requirements of the Directive.

Non-compliances for dry cleaners have been followed up with a number of approaches, including direct liaison with the company through visits or emails, warning letters, or a series of such letters, Section Notices under the Air Pollution Act, recommendations for prosecutions, and prosecutions. Of the total, 36 were noted as resolved while 12 were still outstanding at the time of submission of responses to the LA questionnaire.

The "other cleaning" installation which is not in compliance with the requirements of the Directive has had an assessor's inspection which was non-compliant. The LA did not issue the company with a Certificate of Compliance on foot of the failed inspection and a Notice pursuant to Section 26 of the Air Pollution Act 1987 has been issued, which is still outstanding.

It should be noted that one of the 2 "other cleaning" facilities is likely to be using sufficient solvent (i.e. > 10 tpa) to need to be licensed by the EPA. This will be further investigated by the EPA.

Table 5-7 combines the information in Tables 5-5 and 5-6 for non-compliances for EPA-regulated and LA-regulated installations, divided by activity class.

**Table 5-7: Summary of Non-compliances – EPA-regulated and LA-regulated installations**

Class of Activity	Non-Compliances		
	EPA-regulated installations	LA-regulated installations	Total
1. Heatset web offset printing	-	-	-
2. Publication rotogravure	-	-	-
3. Other printing	3	-	3
4. Surface cleaning using specified compounds	-	-	-
5. Other surface cleaning	-	1	1
6. Vehicle coating and vehicle refinishing	-	-	-
7. Coil coating	-	-	-
8. Other coating	8	-	8
9. Winding wire coating	-	-	-
10. Coating of wooden surfaces	-	-	-
11. Dry cleaning	-	48	48
12. Wood impregnation	-	-	-
13. Coating of leather	-	-	-
14. Footwear manufacture	-	-	-
15. Wood and plastic lamination	-	-	-
16. Adhesive coating	1	-	1
17. Manufacture of coatings	-	-	-
18. Rubber conversion	-	-	-
19. Vegetable oil and animal fat extraction	-	-	-
20. Manufacturing of pharmaceutical products	-	-	-
<b>TOTAL</b>	<b>12</b>	<b>49</b>	<b>61</b>

This reporting period sees the continuing use by some LAs of their enforcement powers available to them. A summary of all activities is provided in Table 5-8. In particular, the following are of note:

- 1 successful prosecution of a dry cleaner by Louth County Council during the period.
- 1 successful prosecution of a dry cleaner by Dublin City Council during the period with the proprietor fined by the courts (had been initiated at time of last report).
- 3 prosecutions initiated by Dun Laoghaire Rathdown County Council.

**Table 5-8: Enforcement activities by LAs for LA-regulated installations during the reporting period**

Successful prosecutions	2
Prosecutions initiated/pending	11
Prosecutions initiated but dropped when company complied	1
Section 26 notice under Air Pollution Act 1987	14
Section 70 notice under Water Services Act 2007 (dry cleaning separator water)	1
Warning letters	266 (ex 2013)*
Reminder letters	73 minimum*

\* Note, some LAs responded with exact numbers of warning and reminder letters issues, while others just noted that such letters had been sent, without specifying the total. Thus, these figures represent a minimum. The total for warning letters is from data returns for 2011 and 2012 only.

Inspections of LA-regulated facilities are set out in Table 5-9. This information is from the questionnaire sent out to LAs during 2014 for the preparation of this report.



**Table 5-9: Enforcement activities for LA-regulated installations during the reporting period**

<b>Number of site inspections carried out by LA personnel in the reporting period</b>	614
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**Un-registered activities**

There are an estimated 128 installations that may be under the scope of the Directive but which have not yet registered. This estimate was provided by each LA for their functional area. It is felt that this may be somewhat of an overestimate. The breakdown of this estimate across the relevant classes of activity is shown in Table 5-10. In particular, the reference to 14 possible un-registered installations under Class 6 “original coating of vehicles or coating of trailers (solvent consumption > 0.5 tonnes per annum)” is likely to be as a result of confusion of this class with vehicle refinishers for repair which are covered by the separate decorative paints legislation. Thus, this value has been excluded from the total. In terms of dry cleaners, some LAs have identified the actual premises which have not registered, but this has just been for 3 of these installations.

**Table 5-10: Estimated no. of installations that may be under the scope of the Directive but who have not been registered/authorised**

<b>Class of activity</b>	<b>Number known/suspected to exist but not yet registered</b>
4 Surface cleaning using compounds with specified risk phrases (R45, R46, R49 R60, R61, or R40 and halogenated) (solvent consumption > 1 tonne per annum)	7
5 Other surface cleaning (solvent consumption > 2 tonnes per annum)	18
6 Original coating of vehicles or coating of trailers (solvent consumption > 0.5 tonnes per annum)	(note 14 were indicated – assumed VR & excluded from total)
8 Other coating, including metal, plastic, textile, fabric, film and paper coating (solvent consumption > 5 tpa)	8
9 Winding wire coating (> 5 tpa)	1
11 Dry cleaning (no threshold)	80
14 Footwear manufacture (> 5 tpa)	0
15 Wood and/or plastic lamination (> 5 tpa)	12
16 Adhesive coating (> 5 tpa)	1
20 Manufacturing of pharmaceutical products (> 50 tpa)	1
<b>TOTAL</b>	<b>128</b>

*For each of the 20 activities of Annex II.A.1 and activities of Annex II.A.2, please indicate the following figures for 2012:*

- Number of installations for which the competent authorities have suspended or withdrawn the authorisation in the case of non-compliance pursuant to Article 10(b) of Directive 1999/13/EC.*

In the reporting period, the EPA or the LAs have not required the suspension or withdrawal of authorisation pursuant to Article 10(b) for any of the installations that are under the Directive. The EPA’s Office of Environmental Enforcement has the power to obtain High Court Injunctions against operators of installations.

**Question 6 Emissions**

*Please indicate for each of the 20 activities of Annex II.A.1 and activities of Annex II.A.2 the number of tonnes of VOCs emitted in 2012. Please indicate whether the figure reported is based on measured, calculated and/or estimated data.*

**Question 6 – Response**

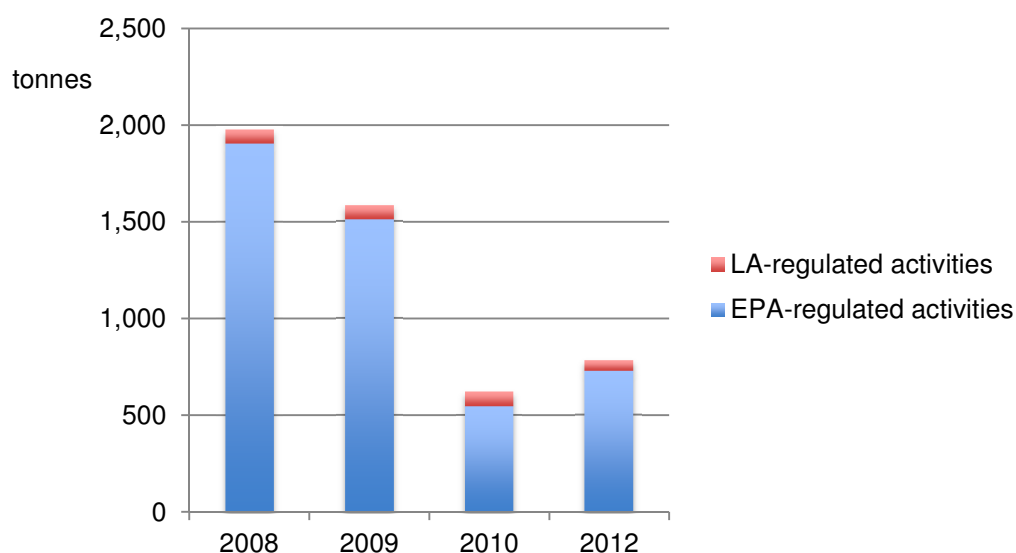
Table 6-1 provides estimated values for total VOC emissions to air for 2012. This consists of a combination of measured emissions, emissions quantified by mass balance, and estimated data (either by the individual companies and in some cases by this report's author). Thus the figures are based on all three: measured, calculated **and** estimated data.

Table 6-1 summarises the estimated total VOC emissions for the years 2008 to 2012 for activities under the solvents Directive. This data has also been shown split into EPA-regulated and LA-regulated activities.

**Table 6-1: Estimate for total VOC emissions to air from solvents Directive activities, 2008 to 2012**

Total VOC emissions from all 20 solvents Directive activities	2008 (tonnes)	2009 (tonnes)	2010 (tonnes)	2012 (tonnes)
EPA-regulated activities	1,904	1,509	546	726
LA-regulated activities	74	73	77	55
<b>Total</b>	<b>1,977</b>	<b>1,581</b>	<b>624</b>	<b>781</b>

**Figure 6-1: Estimate for total VOC emissions to air from solvents Directive activities, 2008 to 2012**



Some observations on the increase in emissions between 2010 and 2012 for EPA-regulated activities:

- While there were a number of site closures, including in particular the largest emitter in the last report, some existing sites increased their level of activity and consequently their usage and emissions compared to 2010. For comparison, there were 13 sites emitting more than 10 tonnes of VOCs in 2010, while there were 24 sites emitting more than 10 tonnes of VOCs in 2012. However, while emissions have increased between 2010 and 2012 (due to increased emissions from EPA licensed sites), the long term trend is still lower solvent emissions. As can be seen in Table 6-1 above, 2012 emissions are still less than half that estimated for 2008.
- While there were some absolute increases in emissions for some sites, the following comments can also be made:
  - There were some sites which while already active and licensed or being licensed in 2010, had no information on emissions data in 2010, for which there is now emissions data available for 2012. In fact, for 2012, emissions data was included or an estimate was made for **all** relevant companies.

- The number of sites with details on fugitive emissions has also increased between 2010 and 2012. 28 sites had information on both waste gas **and** fugitive emissions in 2010, while in 2012 there are 39 sites with such information.
- There were 2 existing unregulated installations which were operational in 2010 and earlier, and for which data has only now become available during the reporting period since they have been brought into the licensing system.
- There are some sites which were below the thresholds in 2010, for example, one installation under activity 20, pharmaceutical manufacture, and so would have been excluded from the emissions totals for 2010.
- Some sites report emissions in terms of actual solvents. However, 14 expressed emissions results as TOC, even fugitive emissions, so this is an underestimate for such sites. An average factor of 56% carbon content was used to factor up for emissions of actual solvents as per the previous report.

Thus, in summary, the emissions increase for EPA-regulated activities is a combination of some increase in activity and better quantification of existing emissions.

Some observations on the decrease in emissions between 2010 and 2012 for LA-regulated activities:

- The total number of dry cleaners has dropped, due to closures and traders stopping dry cleaning on-site. The average emissions per dry cleaning installation have only very slightly dropped from 244 kg in 2010 to 240 kg in 2012.
- The emissions from LA-regulated activities other than dry cleaners have dropped both due to a smaller number of activities remaining regulated and the absence of total emissions information from 1 of the 3 regulated installations.
- Un-registered LA activities. Emissions of any suspected un-registered activities are not included (this was also the case in 2010).

Table 6-2 splits the estimated total VOC emissions for the years 2010 and 2012 across each of the individual activities under the solvents Directive, for both EPA and LA activities. The percentage change between 2010 and 2012 is shown for each activity. For some activities there has been an increase in emissions (positive percentages), while for others there has been a decrease in emissions (negative percentages).

**Table 6-2: Total estimated VOC emissions to air for individual solvents Directive activities, 2010 and 2012**

not occurring denoted by “-”; “i.e.”: included elsewhere.

Total estimated VOC emissions from solvents Directive activities		2010			2012			% change
		EPA-regulated	LA-regulated	All	EPA-regulated	LA-regulated	All	
1	Heatset web offset printing (> 15)	20	-	<b>20</b>	16	-	<b>16</b>	-22%
2	Publication rotogravure (> 25)	-	-	-	-	-	-	-
3	Other rotogravure, flexography, rotary screen printing, laminating or varnishing units (> 15) rotary screen printing on textile/cardboard (> 30)	202	-	<b>202</b>	178	-	<b>178</b>	-12%
4	Surface cleaning using compounds specified in Articles 5(6) and (8) (>1)	3	-	<b>3</b>	2	-	<b>2</b>	-34%
5	Other surface cleaning (> 2)	18	3	<b>20</b>	21	1	<b>22</b>	8%
6	Vehicle coating (< 15) and vehicle refinishing	-	-	-	-	-	-	-
7	Coil coating (> 25)	-	-	-	-	-	-	-
8	Other coating (> 5)	274	7	<b>281</b>	411	4	<b>415</b>	48%
9	Winding wire coating (> 5)	-	-	-	-	-	-	-
10	Coating of wooden surfaces (> 15)	6	-	<b>6</b>	50	-	<b>50</b>	774%
11	Dry cleaning	-	64	<b>64</b>	-	50	<b>50</b>	-22%
12	Wood impregnation (> 25)	i.e.	-	i.e.	i.e.	-	i.e.	-
13	Coating of leather (> 10)	-	-	-	-	-	-	-
14	Footwear manufacture (> 5)	-	-	-	-	-	-	-
15	Wood and plastic lamination (> 5)	i.e.	-	i.e.	i.e.	-	i.e.	-
16	Adhesive coating (> 5)	15	-	<b>15</b>	19	-	<b>19</b>	22%
17	Manufacture of coating preparations, varnishes, inks and adhesives (> 100)	5	-	<b>5</b>	13	-	<b>13</b>	186%
18	Rubber conversion (> 15)	-	-	-	-	-	-	-
19	Vegetable oil & animal fat extraction (> 10)	-	-	-	-	-	-	-
20	Manufacturing of pharmaceutical products (> 50)	3	3	<b>7</b>	15	-	<b>15</b>	130%
	<b>TOTAL</b>	<b>546</b>	<b>77</b>	<b>624</b>	<b>726</b>	<b>55</b>	<b>781</b>	25%

Table 6.3 shows average emissions of perchloroethylene for those installations that reported this data. It should be noted that usage and emissions data sometimes spanned slightly more or less than 1 calendar year, but this has been scaled to 12 months based on the reporting dates provided.

**Table 6-3: Dry Cleaning – Average 2012 Emissions of Perchloroethylene per individual installation**

Average solvent emitted per individual installation	240 kg
No. of facilities with valid data	208

## Question 7 Staff and Costs

*If possible, please estimate:*

— the total number of staff (national, regional, local authorities) involved in the implementation and enforcement of Directive 1999/13/EC (optional),

— the total costs (EUR per year) associated with this for these authorities (optional).

### Question 7 – Response

The authorities responsible in Ireland for the implementation of Directive 1999/13/EC are the Environmental Protection Agency (EPA), responsible for IED/IPC activities, and the 31 Local Authorities, responsible for all other activities.

The following table shows an estimate of the staff involved (either full or part time), the man-days spent, and the associated cost for implementing Directive 1999/13/EC by these relevant authorities over the three years of the reporting period 2011 to 2013.

**Table 7-1: Staff, man-days and cost for the implementation and enforcement of Directive 1999/13/EC, 1 Jan 2011 - 31 Dec 2013**

Competent Authority	Total number of staff involved in implementing & enforcing Directive 1999/13/EC (full or part time basis)	Total number of man-years for the 3-year period	Total approx. cost associated with this staffing requirement for the 3 year period (€)
EPA	4 (full-time)	7.8	€975,000
LAs (as reported – partial data)	57 <sup>5</sup> (full- and part-time)	3.7 <sup>6</sup>	€162,000 <sup>7</sup>
LAs (estimate for total country <sup>8</sup> )		4.6	€243,000
<b>Total</b>		<b>12.4</b>	<b>€1,218,000</b> or (€406,000 per yr)

LA time staff spent on implementing the Directive has decreased since the previous reporting period, which would be in keeping with the previous reporting period coincided with the initial permitting of a large number of dry cleaning operators.

<sup>5</sup> Data on staff was not provided by 6 of the 31 local authorities for this question.

<sup>6</sup> Data on man-days was not provided by 5 of the 31 local authorities for this question.

<sup>7</sup> Data on costs was not provided by 15 of the 31 local authorities for this question.

<sup>8</sup> Estimate based on the average cost per day from the data provided, together with the man-days data where reported; areas with no data reported were estimated based on population (those with no data reported accounted for 21% of the population).

Table 7-2 shows an estimate of man-months spent by the relevant authorities, as well as the external consultant used, for reporting to the European Commission on the implementation of Directive 1999/13/EC.

**Table 7-2: Administrative costs for the preparation of this report**

<b>Costs for preparation of report</b>	<b>EPA</b>	<b>External consultant</b>	<b>Total</b>
Man-months	1	3	4
Cost (€)	€10,000	€30,700 (ex VAT)	<b>€41,000</b>

## **Question 8    Any Other Comments**

### **Question 8 – Response**

**Outlook for solvent use:** An integrated circuit manufacturer is planning to update several process technologies which will significantly increase solvent use at the site (activity was licensed December 2013 but the change will be happening outside this reporting period). Solvent input is currently of the order of 1,000 tpa for this installation and is to increase to 20,000 tpa. However, this is not anticipated to have a significant effect on emissions to air, since the majority of the solvent will be handled as waste for recovery or disposal, and there is air emissions abatement in place/planned. The site is already a Directive 1999/13/EC installation.

### **Feedback from Local Authority (LA) Enforcement Officers:**

- There were a number of LAs requesting the introduction of an “on-the-spot” fine as an enforcement tool for non-compliant operators. This will be introduced by the end of 2014 or early 2015.
- One local authority suggested that it would be more efficient and accurate to track solvent usage and waste generation at a supplier/importer and waste management level, respectively.

The following comments were previously made in the last report, but still stand:

- Directive 1999/13/EC is significantly more prescriptive than many other environmental instruments such as the IED BAT approach, determined in a site specific manner.
- Aside from dry cleaning, the presence of installations that come under the scope of the legislation can be difficult to identify. This is mainly down to the concept of solvent consumption which can vary from year to year. Many sites, and indeed enforcers, are unaware of the subtle definition of consumption, where solvent sent for recovery off-site is subtracted.
- Nuances of the legislation make it difficult to apply and enforce; for example, the activity ‘surface cleaning of products’ does not include that solvent used for cleaning equipment. For a lot of medical device and electronics installations the split between that used for cleaning product and equipment can be difficult to determine.
- There are industrial activities that use solvent but are outside the remit of Directive 1999/13/EC, e.g. of particular relevance to Ireland – the manufacture of bulk active pharmaceutical ingredients.

**Annex**

List of Activities with derogations issued under Article 5(3)(b), i.e. activities which cannot be operated under contained conditions

<b>Company name and licence number</b>	<b>Reasons for derogation</b>	<b>Other comments</b>
Shannon Aerospace Ltd. Licence no. P0069-02	The EPA concluded that the reduction scheme was not technically and economically feasible based on information submitted by the licensees. The operators were required to demonstrate that the installation provides no significant risk to human health or the environment and that BAT is being used.	Shannon Aerospace is still relevant to the Directive and are still utilising the derogation. The licence still contains waste gas emission limit values, albeit at levels which are less strict than the Directive. The requirements of other areas of the Solvents Regulations are included in the requirement for an annual Solvent Management Plan (in accordance with the Directive's guidelines), a programme for the identification and reduction of fugitive emissions. The Schedule of Objectives and Targets includes a requirement for a target to reduce fugitive emissions.
Lufthansa Technik Painting Shannon Ltd. licence no. P0497-02		Still relevant to the Directive and are still utilising the derogation. The licence still contains waste gas emission limit values, albeit at levels which are less strict than the Directive. The requirements of other areas of the Solvents Regulations are included in the requirement for an annual Solvent Management Plan (in accordance with the Directive's guidelines), a programme for the identification and reduction of fugitive emissions. The Schedule of Objectives and Targets includes a requirement for a target to reduce fugitive emissions.

<b><i>Company name and licence number</i></b>	<b><i>Reasons for derogation</i></b>	<b><i>Other comments</i></b>
Dublin Aerospace Ltd. licence no. P0480-02	The EPA concluded that the reduction scheme was not technically and economically feasible based on information submitted by the licensees. The operators were required to demonstrate that the installation provides no significant risk to human health or the environment and that BAT is being used.	<p>Still relevant to the Directive and are still utilising the derogation.</p> <p>The licence still contains waste gas emission limit values, albeit at levels which are less strict than the Directive.</p> <p>The requirements of other areas of the Solvents Regulations are included in the requirement for an annual Solvent Management Plan (in accordance with the Directive's guidelines).</p>
Liebherr Container Cranes Ltd. licence no. P0146-02	The EPA concluded that the reduction scheme was not technically and economically feasible based on information submitted by the licensee. The operator was required to demonstrate that the installation provides no significant risk to human health or the environment and that BAT is being used.	<p>The licence still contains waste gas emission limit values, albeit at levels which are less strict than the Directive. A continued programme of identification, quantification and reduction of fugitive emissions is required in the site's licence. There is a limitation on solvent use in the licence that the operator cannot go above in line with the IPPC class of activity: "the organic solvent consumption capacity of the installation shall not exceed 150kg per hour or 200 tonnes per year."</p> <p>The requirements of other areas of the Solvents Regulations are included in the requirement for an annual Solvent Management Plan, a programme for the identification, quantification and reduction of fugitive emissions, and the exclusion of VOCs carrying certain risk phrases. The Schedule of Objectives and Targets includes the minimisation of VOC emissions to atmosphere, the implementation of a fugitive emissions reduction programme, optimisation of spraying operations and increasing coating efficiency, conversion to in-line paint mixing equipment, optimisation of solvent recovery and re-use and substitution of solvent-based paints with high-solids (lower solvent) coatings.</p>