



## **THE SOLVENTS / EMISSIONS OF VOLATILE ORGANIC COMPOUNDS (VOC) LEGISLATION**

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## 1.0 INTRODUCTION

**S.I. No. 543 of 2002 “Emissions of Volatile Organic Compounds from Organic Solvents Regulations 2002”** (known as the “Solvents Regulations”) implement the *Solvents Directive 1999/13/EC* in Ireland and regulate the use of Volatile Organic Compounds (VOCs) in both the services and manufacturing sectors. These Regulations aim to limit the emissions of VOCs due to the use of organic solvents in certain activities and installations. The Regulations came into force on 30 November 2002 and impact a wide range of industry sectors.

## 2.0 INDUSTRY SECTORS IMPACTED

The Regulations apply to **twenty categories** of industry activities (listed in **Schedule 1 of the Regulations**) using solvents in volumes above specified solvent consumption thresholds per year (defined in **Schedule 2 of the Regulations**). The impacted activities are:-

- Printing (3 categories)
- Surface cleaning (2 categories)
- Vehicle coating and refinishing
- Coil coating
- Other coating (metal, plastic, textile, fabric, film, paper)
- Winding wire coating
- Coating wooden surfaces, leather
- Dry cleaning
- Wood impregnation
- Footwear manufacture
- Adhesive coating
- Manufacture of coating preparations, varnishes, inks, adhesives

- Rubber conversion
- Vegetable oil and animal fat extraction and vegetable oil refining
- Manufacture of pharmaceutical products.

The Regulations will be implemented through the existing Integrated Pollution Prevention Control (IPPC) licensing system operated by the Environmental Protection Agency (EPA) and a new system known as the Accredited Inspection Control (AIC) system as follows:-

- Activities with the capacity to use  $\geq 10$  tonnes/year of solvents require an IPPC licence from the EPA.
- Specified activities using  $< 10$  tonnes/year and which are not an activity requiring an IPPC licence (as defined in Schedule 1 of the Protection of the Environment Act 2003) must operate under the AIC.

Each activity category is assigned a solvent consumption threshold in tonnes/year above which the Regulations apply. In some cases e.g. printing activities, the consumption thresholds are all greater than 15 tonnes/year and would already be subject to IPPC licensing by the EPA. In other cases, e.g. surface cleaning, the consumption thresholds are below 10 tonnes/year and may require the extension of control to previously unlicensed activities. In the case of dry cleaning, there is no consumption threshold specified so all such activities are included, regardless of size.

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### 3.0 IMPLEMENTATION

#### 3.1 IPPC Licensing

Companies with activities requiring an IPPC licence, that do not already hold one, should make an application for a licence to the EPA. For further information see the [Integrated Pollution Prevention and Control Legal Guide](#) or [www.epa.ie/downloads/legislation/air/solvents/](http://www.epa.ie/downloads/legislation/air/solvents/)

#### 3.2 Accredited Inspection Contractor (AIC) System

Activities that come under the AIC must do the following:-

- Register with the competent authority and operate in accordance with an annual certificate of compliance issued by the **competent authority**. In the case of non-IPPC licenced activities, the competent authority is the **Local Authority** (county council or city council) in whose functional area the installation is located.
- Organise for an AIC to annually review their operations to determine the state of compliance with the Regulations and produce an annual AIC report. The **Certificate of Compliance** (as per **Schedule 5 of the Regulations**) will be issued on the basis of this report stating that the installation is in compliance with the Regulations. The AIC will be selected from a panel of contractors accredited by the National Accreditation Board (NAB) to EN 45004 (ISO/IEC 17020) “General criteria for the operation of various types of bodies performing inspection”. See [www.inab.ie](http://www.inab.ie) for a list of AICs.
- Meet requirements regarding air emissions relevant to the sector.



### **3.2.1 Fees / Turnaround Time / Duration of Certificate**

To register with the Local Authority the registration details listed in **Schedule 4 of the Regulations**, an AIC report and €50 fee must be submitted. The certificate of compliance will be issued within 14 days of receipt of the report from the AIC, provided the Local Authority is satisfied that the report demonstrates compliance. If not satisfied, the competent authority will refuse to issue a certificate. The certificate of compliance is valid for no longer than 1 year.

### **3.2.2 Public Information**

The reports submitted by the accredited inspection contractors and the certificate of compliance or notification of non-compliance are recorded in a register open to the public.



### 3.3 Ongoing Controls and Management

To control the volume of solvent emissions to air from impacted installations, air emission requirements specific to the sector must be complied with. [Sectoral Best Practice Guidelines](#) are being drawn up by the EPA to detail these requirements. An installation can comply with the air emissions requirements by one of two routes:-

- a) compliance with a Reduction Scheme (in **Schedule 3 of the Regulations**); OR
- b) meeting the Emission Limit Values (ELVs) in waste gases and the fugitive emission values or total emission limit values (in **Schedule 2 of the Regulations**), and other relevant special provisions in Schedule 2.

Certain VOC containing substances or preparations classified as carcinogenic, mutagenic or toxic (Risk Phrases R45, R46, R49, R60, R61) must be replaced where possible with less harmful substances or preparations. These substances along with halogenated VOCs with Risk Phrase R40 must comply with separate ELVs regardless of the overall compliance method.

Tracking and recording of solvent purchase, use and emissions data will be necessary for the annual AIC inspection. Emission monitoring may be a requirement. These requirements will be determined by the sector and compliance method chosen. Where greater than an average of 10 kg/h of Total Organic Carbon is emitted from the final discharge point (post abatement equipment) continuous monitoring is required.



To demonstrate compliance an operator must demonstrate to the Competent Authority the installations compliance with the following, as relevant:-

- The ELVs in waste gases, fugitive emission values and total emission values;

Solvent Management Plans are to be prepared. This is for:-

- Verification of compliance;
- Identification of future reduction options;
- Provision of information to the public on solvent consumption, emission and compliance with the Directive.



### 3.3.1 Reduction Scheme

The purpose of the Reduction Scheme is to allow the operator achieve emission reductions equivalent to those achieved if the ELVs were applied. The operator may use a reduction scheme appropriate for their installation, such as the substitution with coatings containing reduced levels of solvents in the total input, or increased efficiency in the use of solvents. The operator first calculates the current **annual reference emission** based on the total mass of solids consumed in a year multiplied by an appropriate factor, which is activity related. The **target emission** is then calculated from the annual reference emission and a percentage derived from the fugitive emission limit for that activity. Compliance is achieved if the actual solvent emission, determined from the solvent management plan, is less than or equal to the target emission. The implementation dates for compliance with the reduction scheme are:

Max. Emission	New Installations	Existing Installations
Target emission x 1.5	By 31 October 2003	By 31 October 2005
Target emission	By 31 October 2004	By 31 October 2007

### 3.3.2 Emission Limit Values

Schedule 2 of the Regulations is a list of the specified activities with thresholds and related **Emission Limit Values** that must be met. There are 20 categories of activities which are summarised as:

- Printing (3 categories)
- Surface cleaning (2 categories)
- Vehicle coating and refinishing



- Coil coating
- Other coating (metal, plastic, textile, fabric, film, paper)
- Winding wire coating
- Coating wooden surfaces, leather
- Dry cleaning
- Wood impregnation
- Footwear manufacture
- Adhesive coating
- Manufacture of coating preparations, varnishes, inks, adhesives
- Rubber conversion
- Vegetable oil and animal fat extraction and vegetable oil refining
- Manufacture of pharmaceutical products

Each category is assigned a **solvent consumption threshold** (above which the Regulations apply), a combination of emission limit value and fugitive emission value and/or a total emission limit value. In some cases e.g. printing activities, the consumption thresholds are all in excess of 15 tonnes/year and would already be subject to IPPC licensing by the EPA. In other cases, e.g. surface cleaning, the consumption thresholds are below 10 tonnes/year and may require the extension of control to previously unlicensed activities. In the case of dry cleaning, there is no consumption threshold specified so all such activities are included, regardless of size.

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#### 4.0 TIMESCALES

New installations, those put into operation on or after 1 July 2003, which are not subject to IPPC licensing must be registered before commencement and meet the emission limits specified from the start.

Existing installations, those in operation on or before 30 June 2003, which are not subject to IPPC licensing must meet the limits no later than 31 October 2007.

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#### 5.0 EXEMPTIONS

Local authorities may exempt certain installations from compliance with some emission limit values in specified circumstances provided the operator demonstrates that Best Available Techniques (BAT) are being employed and that there is no significant risk to human health or the environment.

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#### 6.0 FURTHER INFORMATION AND GUIDANCE

- [EPA's Solvents Information Webpage](#)
  - Plain Guide to the Solvents Regulations
  - Sectoral guidance documents
  - National Protocol for implementing the Solvents Regulations in Ireland
  - List of AICs
- Enterprise Ireland EnviroCentre [Best Practice Guide Good Housekeeping Measures for Solvents](#)



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## 7.0 DOWNLOAD LEGISLATION

[Solvents Directive](#)

[Solvents Regulations](#)

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