

Solvents Regulations 2002 & the Accredited Inspection Contractor (AIC) system

A Plain Guide

Under recent Regulations new environmental requirements are to be phased in for various solvent using companies in Ireland. Similar measures are being brought in across the European Union, as part of the implementation of a European Directive on solvent emissions. This Directive has been drawn up because of the harmful effects of solvents on human health and the environment.

There are many different types of businesses that will be affected by these Regulations, from dry cleaning to pharmaceutical manufacture. Solvent users must determine if the Regulations apply to their operation. This depends on your sector and how much solvent you consume in a year (see Table 1).

A new system known as the Accredited Inspection Contractor (AIC) system, together with the Integrated Pollution Prevention and Control (IPPC) licensing system operated by the Environmental Protection Agency (EPA), will be used to implement the Regulations.

Activities which come under the Regulations, but also come under any of the activities in the Protection of the Environment Act 2003, must hold an IPPC licence in order to operate. All other activities which come under the Regulations must operate under the Accredited Inspection Contractor (AIC) system. See Table 1.

The following is a short guide to the operation of this new Accredited Inspection Contractor (AIC) system.

What are the Obligations for Businesses under the Accredited Inspection Contractor (AIC) System?

Businesses that come under the Accredited Inspection Contractor (AIC) system are obliged to:

- register with your local authority.
- meet specific requirements regarding air emissions for your sector.
- get an accredited inspection contractor (AIC) to review your operation to demonstrate if it is in compliance with the Regulations or not, and produce an AIC report (annually).
- obtain a certificate of compliance (annually) from your local authority and operate in accordance with it.

When must I meet these requirements?

The dates by which you need to meet the requirements of the Regulations depend on whether you are a new or existing installation, and whether you are meeting 'Emission Limit Values' or complying with a 'Reduction Scheme' (see Requirements Regarding Air Emissions below).

A 'new' installation is one put into operation on or after 1 July 2003. An 'existing' installation is one in operation on or before 30 June 2003.

The dates by which a facility must meet air emissions requirements, and must register with and obtain a certificate of compliance from their local authority are as follows:

- if you are a new installation: before you start to operate
- if you are an existing installation using the reduction scheme: by 31 October 2005
- if you are an existing installation meeting the Emission Limit Values: by 31 October 2007

You will not be allowed to continue operation after the above dates without a Certificate of Compliance

What are the Requirements Regarding Air Emissions?

In general, the air emissions requirements are that your facility either meets an "Emission Limit Value" or that your facility complies with a "Reduction Scheme". These two options are just two different ways of achieving the same thing - putting a control on the amount of solvent that is emitted to air from your activities. Some activities have emission limits based on their level of production and so the "Reduction Scheme" does not apply.

The specific "Emission Limit Value" or "Reduction Scheme" requirements depend on your sector. Best Practice Guidelines for different sectors are being drawn up which detail these requirements. You should look to these to find out more about each option. It is down to you to choose whether you will use the "Emission Limit Value" or "Reduction Scheme", where applicable (see www.epa.ie).

Will Air Emissions have to be Monitored?

In many cases measurement of emissions in waste gases may not be necessary and what is termed a "solvent management plan" can be used to demonstrate compliance (this basically works out where all of the solvent you use eventually ends up). Measurement of emissions is usually only carried out where the "Emission Limit Value" route has been chosen and the sector involved has an "Emission Limit Value" set for waste gases. In some cases, one monitoring exercise before first registration will be needed.

What is an AIC report?

In order to obtain a Certificate of Compliance you will need to get an accredited inspection contractor (AIC) to review your operation and produce a report on compliance or otherwise with the Regulations. This is called an AIC Report.

The inspection contractor used to produce the AIC Report must be accredited by the Irish National Accreditation Board (INAB) to ISO 17020 for the conduct of inspections to the Emissions of Volatile Organic Compounds from Organic Solvents Regulations 2002 (S.I. No. 543 of 2002).

There is a protocol that sets out the procedures that are recommended for use by accredited inspection contractors in conducting site inspections and preparing AIC reports, as well as a template for the format and content of the AIC report itself (see www.epa.ie).

Where can I find an accredited inspection contractor?

INAB will have a list of accredited inspection contractors (AICs). See <http://www.inab.ie> or contact Irish National Accreditation Board, Wilton Park House, Wilton Place, Dublin 2, Phone 01 607 3003.

How often must an AIC Report be submitted?

An AIC Report indicating compliance must be submitted on first registration, and annually thereafter. A fee of €50 must be paid to the local authority every time an AIC Report is submitted.

An AIC Report must also be submitted if a substantial change is proposed (see the Best Practice Guidelines relevant to your sector, or look at the solvents Directive 99/13/EC for what a 'substantial change' is).

How do I register?

Registration with your local authority involves submission of the following:

- registration details (Table 2).
- an AIC Report.
- a fee of €50.

Contact your local authority environment section to submit your registration application.

What is the Certificate of Compliance?

You cannot start up a new installation without a certificate of compliance, or you cannot continue operating an existing installation after the relevant dates without such a certificate.

Your local authority must issue you with a certificate of compliance within 14 days of receiving your AIC report, once it is satisfied that you are in compliance with the Regulations.

After obtaining the certificate you must operate in accordance with the guidance relevant to your sector.

If the local authority considers that the Regulations are not being complied with by you, it will notify you of its refusal to issue a certificate.

How long is the certificate of compliance valid?

The certificate is valid for **one year only**. You must submit an AIC report indicating your compliance each year to obtain a new certificate.

Will the Regulations have an effect on my current operation?

It is advisable that you familiarise yourself with what is required under the Regulations as it may have an impact on how you operate. You should consult the Best Practice Guidelines relevant to your sector to get an understanding of the requirements for your installation. You may wish to seek advice from your industry association or a consultant to see how the guidelines apply to your business.

Once you obtain the AIC report, it will summarise the requirements that are relevant to you along with your current performance against such requirements.

What information will the AIC look for?

The type of information the AIC will be looking for during the review of your facility will vary according to what sector you are in, but will include, as necessary, solvent purchase records, solvent stock level records, waste solvent records, any recovered or reused solvent, production data, product solvent content, any analysis already carried out of solvent in air emissions, in water emissions, in waste, etc. You should consult the Best Practice Guidelines relevant to your sector to get an understanding of the type of information that the AIC will be looking for in your installation.

Depending on your sector and the compliance route you have chosen (Emission Limit Values or Reduction Scheme), the AIC may carry out measurement of solvent contained in waste gases.

The AIC may also review relevant operational practices at your facility, including, employee training records, solvent raw material and solvent waste storage and handling, and equipment operating procedures.

Will I need to carry out additional tracking / record keeping?

As can be seen by the type of information the AIC will be looking for during the review of your facility, you may need to carry out additional record keeping or tracking in order to have the information available for the AIC.

You should consult the Best Practice Guidelines relevant to your sector to get an idea of the type of information and records that need to be kept for your installation.

TABLE 1:

ACTIVITIES COVERED BY THE SOLVENTS DIRECTIVE

The Solvent Directive applies to the following activities above the solvent consumption thresholds specified in the second column (a definition of each activity is given overleaf). The appropriate regulation system, either IPPC licensing or AIC system, is shown in the third and fourth columns. This list is indicative of the requirements of the regulations and should not be interpreted as a definitive list or a legal interpretation. All operators are advised to seek further advice and contact the EPA for further guidance if required.

	Activity	Solvent consumption ¹ threshold (tonnes/year) above which Regulations apply	Appropriate Regulatory System	
			IPPC licence	AIC system
1	Heatset web offset printing	> 15	All such activities with capacity to use ≥ 10 tonne/year	AIC system not applicable
2	Publication rotogravure	> 25	All such activities with capacity to use ≥ 10 tonne/year	AIC system not applicable
3	Other rotogravure, flexography, rotary screen printing, laminating or varnishing units	> 15	All such activities with capacity to use ≥ 10 tonne/year	AIC system not applicable
	rotary screen printing on textile/cardboard	> 30	All such activities with capacity to use ≥ 10 tonne/year	AIC system not applicable
4	Surface cleaning using compounds with specified risk phrases ²	> 1	All such activities where capacity > 150 Kg/hour or > 200 tonnes/year	All such activities < 150 Kg/hour or < 200 tonnes/year
5	Other surface cleaning	> 2	All such activities where capacity > 150 Kg/hour or > 200 tonnes/year	All such activities < 150 Kg/hour or < 200 tonnes/year
6	Vehicle coating and vehicle refinishing	> 0.5	All such activities with capacity to use ≥ 10 tonne/year	All such activities with capacity to use < 10 tonne/year
7	Coil Coating	> 25	All such activities with capacity to use ≥ 10 tonne/year	AIC system not applicable

¹ 'Consumption' means the total input of solvents into an installation per calendar year, or any other 12-month period, less any solvents that are recovered for reuse.

'Reuse' means the use of solvents recovered from an installation for any technical or commercial purpose and including use as a fuel but excluding the final disposal of such recovered organic solvent as waste.

² A 'risk phrase' conveys a general description of the hazards present with the normal, or reasonably foreseeable, handling or use of a substance. The specified risk phrases are 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), or R40 (limited evidence of a carcinogenic effect) and halogenated.

Activity	Solvent consumption threshold (tonnes/year) above which Regulations apply	Appropriate System	
		IPC licence	AIC system
8	Other coating, including metal, plastic, textile ⁽⁵⁾ , fabric, film and paper coating	All such activities with capacity to use ≥ 10 tonne/year	All such activities with capacity to use < 10 tonne/year
9	Winding wire coating	All such activities with capacity to use ≥ 10 tonne/year	All such activities with capacity to use < 10 tonne/year
10	Coating of wooden surfaces	All such activities with capacity to use ≥ 10 tonne/year	AIC system not applicable
11	Dry cleaning	IPC not applicable	All such activities (no solvent threshold)
12	Wood impregnation	All such activities with capacity to treat ≥ 10 tonnes wood/day	All such activities with capacity to treat < 10 tonnes wood/day
13	Coating of leather	All such activities with capacity to use ≥ 10 tonne/year	AIC system not applicable
14	Footwear manufacture	All such activities with capacity to use ≥ 10 tonne/year	All such activities with capacity to use < 10 tonne/year
15	Wood and plastic lamination	All such activities with capacity to use ≥ 10 tonne/year	All such activities with capacity to use < 10 tonne/year
16	Adhesive coating	All such activities with capacity to use ≥ 10 tonne/year	All such activities with capacity to use < 10 tonne/year
17	Manufacture of coating preparations, varnishes, inks and adhesives	Coating preparations: All such activities with capacity to use ≥ 10 tonne/year. Varnishes, inks: All such activities where production capacity > 1000 litres/week. Adhesives: All such activities (no threshold).	Coating preparations: AIC system not applicable. Varnishes, inks: All such activities where production capacity ≤ 1000 litres/week Adhesives: AIC system not applicable.
18	Rubber conversion	All manufacture of elastomers where production capacity > 1000 litres/week or Production of synthetic rubbers (no threshold)	All such activities with capacity < 1000 litres/week apart from production of synthetic rubbers
19	Vegetable oil and animal fat extraction and vegetable oil refining activities	All such activities with capacity for processing raw materials > 40 tonnes/day	All such activities with capacity for processing raw materials < 40 tonnes/day

	Activity	Solvent consumption threshold (tonnes/year) above which Regulations apply	Appropriate System	
20	Manufacturing of pharmaceutical products	> 50	IPC licence All such activities except pharmaceutical formulation	AIC system All such pharmaceutical formulation plants

Definition of Activities in Table 1:

Printing (activities 1, 2, and 3 in Table 1)

Any reproduction activity of text and/or images in which, with the use of an image carrier, ink is transferred onto whatever type of surface. It includes associated varnishing, coating and laminating techniques. However, only the following sub-processes are subject to the Directive:

- *flexography* – a printing activity using an image carrier of rubber or elastic photopolymers on which the printing areas are above the non-printing areas, using liquid inks which dry through evaporation,
- *heatset web offset* – a web-fed printing activity using an image carrier in which the printing and non-printing area are in the same plane, where web-fed means that the material to be printed is fed to the machine from a reel as distinct from separate sheets. The non-printing is treated to attract water and thus reject ink. The printing area is treated to receive and transmit ink to the surface to be printed. Evaporation takes place in an oven where hot air is used to heat the printed material,
- *laminating associated to a printing activity* – the adhering together of two or more flexible materials to product laminates,
- *publication rotogravure* – a rotogravure printing activity used for printing paper for magazines, brochures, catalogues or similar products, using toluene-based inks,
- *rotogravure* – a printing activity using a cylindrical image carrier in which the printing area is below the non-printing area, using liquid inks which dry through evaporation. The recesses are filled with ink and the surplus is cleaned off the non-printing area before the surface to be printed contacts the cylinder and lifts the ink from the recesses,
- *rotary screen printing* – a web-fed printing activity in which the ink is passed onto the surface to be printed by forcing it through a porous image carrier, in which the printing area is open and the non-printing area is sealed off, using liquid inks which dry only through evaporation. Web-fed means that the material to be printed is fed to the machine from a reel as distinct from separate sheets.
- *varnishing* – an activity by which a varnish or an adhesive coating for the purpose of later sealing the packaging material is applied to a flexible material.

Surface Cleaning (activities 4 and 5 in Table 1)

Any activity except dry cleaning using organic solvents to remove contamination from the surface of material including degreasing. A cleaning activity consisting of more than one step before or after any other activity shall be considered as one surface cleaning activity. This activity does not refer to the cleaning of the equipment but to the cleaning of the surface products.

Vehicle Refinishing (activity 6 in Table 1) (see also 'coating activity' definition below)

Any industrial or commercial coating activity and associated degreasing activities performing:

- the coating of road vehicles as defined in Directive 70/156/EEC, or part of them, carried out as part of vehicle repair, conservation or decoration outside of manufacturing installations, or
- the original coating of road vehicles as defined in Directive 70/156/EEC or part of them with refinishing-type materials, where this is carried out away from the original manufacturing line, or
- the coating of trailers (including semi-trailers) (category O).

Coil Coating (activity 7 in Table 1) (see also 'coating activity' definition below)

Any activity where coiled steel, stainless steel, coating steel, copper alloys or aluminium strip is coated with either a film forming or laminate coating in a continuous process.

Other Coating (activity 8 in Table 1) (see 'coating activity' definition below)

Winding Wire Coating (activity 9 in Table 1) (see also 'coating activity' definition below)

Any coating activity of metallic conductors used for winding the coils in transformers and motors, etc.

Coating of Wooden Surfaces (activity 10 in Table 1) (see 'coating activity' definition below)

Dry Cleaning (activity 11 in Table 1)

Any industrial or commercial activity using VOCs in an installation to clean garments, furnishing and similar consumer goods with the exception of the manual removal of stains and spots in the textile and clothing industry.

Wood Impregnation (activity 12 in Table 1)

Any activity giving a loading of preservative in timber.

Coating of Leather (activity 13 in Table 1) (see 'coating activity' definition below)

Coating Activity (activities 6, 7, 8, 9, 10, and 13 in Table 1)

- Any activity in which a single or multiple application of a continuous film of a coating is applied to:
 - vehicles as listed below:
 - new cars, defined as vehicles of category M1 in Directive 70/156/EEC³, and of category N1 in so far as they are coated at the same installations as M1 vehicles,
 - truck cabins, defined as the housing for the driver, and all integrated housing for the technical equipment, of vehicles of categories N2 and N3 in Directive 70/156/EEC,
 - vans and trucks, defined as vehicles of categories N1, N2 and N3 in Directive 70/156/EEC, but not including truck cabins.
 - buses defined as vehicles of categories M2 and M3 in Directive 70/156/EEC,
 - trailers, defined in categories O1, O2, O3 and O4 in Directive 70/156/EEC
 - metallic and plastic surfaces including surfaces of airplanes, ships, trains, etc.,
 - wooden surfaces,
 - textile, fabric, film and paper surfaces,
 - leather.

It does not include the coating of substrate with metals by electrophoretic and chemical spraying techniques. If the coating activity includes a step in which the same article is printed by whatever technique used, that printing step is considered part of the coating activity. However, printing activities operated as a separate activity are not included, but may be covered by the Directive if the printing activity falls within the scope thereof.

Footwear Manufacture (activity 14 in Table 1)

Any activity of producing complete footwear or parts thereof.

Wood and Plastic Lamination (activity 15 in Table 1)

Any activity to adhere together wood and/or plastic to produce laminated products.

Adhesive Coating (activity 16 in Table 1)

Any activity in which an adhesive is applied to a surface, with the exception of adhesive coating and laminating associated with printing activities.

Manufacturing of Coating Preparations, Varnishes, Inks and Adhesives (activity 17 in Table 1)

The manufacture of the above final products, and of intermediates where carried out at the same site, by mixing of pigments, resins and adhesive materials with organic solvent or other carrier, including dispersion and pre-dispersion activities, viscosity and tint adjustments and operations for filling the final product into its container.

Rubber Conversion (activity 18 in Table 1)

An activity of mixing, milling, blending, calendaring, extrusion and vulcanisation of natural or synthetic rubber and any ancillary operations for converting natural or synthetic rubber into a finished product.

Vegetable Oil and Animal Fat Extraction and Vegetable Oil Refining Activities (activity 19 in Table 1)

Any activity to extract vegetable oil from seeds and other vegetable matter, the processing of dry residues to produce animal feed, the purification of fats and vegetable oils derived from seeds, vegetable matter and/or animal matter.

Manufacturing of Pharmaceutical Products (activity 20 in Table 1)

The chemical synthesis, fermentation, extraction, formulation and finishing of pharmaceutical products and where carried out at the same site, at the same site, the manufacture of intermediate products.

³ O.J. L 42, 23.2.1970, P.1 Directive as last amended by Directive 2000/40/EC (O.J. L 203, 10.8.2000, P.9)

TABLE 2: REGISTRATION DETAILS

Schedule 4 to the Emissions of Emissions of Volatile Organic Compounds from Organic Solvents Regulations 2002 (S.I. No. 543 of 2002)

Registration of an Installation

1. Name and address of the operator:
2. Address of the installation if different from 1. above:
3. Is the installation "new" or "existing" or under going a "substantial change" as defined in the Regulations?
4. State the activity or activities carried out or proposed to be carried out at the installation by reference to Schedules 1 and 2 of the Regulations:
5. Detail the type or types of organic solvent used or to be proposed to be used in the activity or activities:
6. State the estimated quantity of each type of organic solvent consumed or proposed to be consumed annually in each activity:
7. Will abatement equipment be used or is it used currently? If so, briefly describe:
8. Are you employing, or do you propose to employ, a solvent reduction scheme under article 7(1)(a)? If so, detail briefly any reduction targets to be achieved:

I am applying to register the above named installation under article 5/article 6 (delete as appropriate) of S.I. No. 543 of 2002.

Signature.....

Date.....