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L.N. 12 of 2013**ENVIRONMENT AND DEVELOPMENT PLANNING ACT
(CAP. 504)****Industrial Emissions (Limitation of Emissions of Volatile
Organic Compounds) Regulations, 2013**

BY VIRTUE of the powers conferred by articles 2, 61, 64 and 66 of the Environment and Development Planning Act, the Minister for Tourism, Culture and the Environment, in consultation with the Malta Environment and Planning Authority, has made the following regulations:-

Citation and commencement.

1. (1) The title of these regulations is the Industrial Emissions (Limitation of Emissions of Volatile Organic Compounds) Regulations, 2013.

(2) These regulations shall be deemed to have come into force on the 7th January, 2013.

Scope.

2. (1) These regulations provide for the implementation in part of Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on Industrial Emissions (Integrated Pollution Prevention and Control) (Recast).

L.N. 9 of 2013.

(2) These regulations also provide for the implementation of the Industrial Emissions (Framework) Regulations, 2013.

(3) These regulations lay down rules for the prevention and control of pollution arising from the use of organic solvents in certain activities and installations. The purpose and scope of these regulations is to prevent or reduce the direct and indirect effects of emissions of volatile organic compounds into the environment, mainly into the air, and the potential risks to human health.

Categories of activity.

3. These regulations shall apply to the activities defined in Schedule I, and, where applicable, reaching the solvent consumption thresholds listed in Schedule II.

Definitions.

4. For the purpose of these regulations and unless the context otherwise requires:

"adhesive" means any mixture, including all the organic solvents or mixtures containing organic solvents necessary for its proper application, which is used to adhere separate parts of a

product;

"consumption" means the total input of organic solvents into an installation per calendar year, or any other twelve-month period, less any volatile organic compounds that are recovered for re-use;

"contained conditions" means conditions under which an installation is operated such that the volatile organic compounds released from the activity are collected and discharged in a controlled way either via a stack or abatement equipment and are therefore not entirely fugitive;

"existing installation" means an installation in operation on 29 March 1999 or which was granted a permit or registered before 1 April 2001 or the operator of which submitted a complete application for a permit before 1 April 2001, provided that that installation was put in operation no later than 1 April 2002;

"fugitive emissions" means any emissions, not in waste gases, of volatile organic compounds into air, soil and water as well as, unless otherwise stated in Schedule II, solvents contained in any products. These include uncaptured emissions released to the outside environment via windows, doors, vents and similar openings;

"ink" means a mixture, including all the organic solvents or mixtures containing organic solvents necessary for its proper application, which is used in a printing activity to impress text or images on to a surface;

"input" means the quantity of organic solvents and their quantity in mixtures used when carrying out an activity, including the solvents recycled inside and outside the installation, and which are counted every time they are used to carry out the activity;

"mass flow" means the quantity of volatile organic compounds released, in unit of mass/hour;

"mixture" means mixture as defined in Article 3(2) of Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) and establishing a European Chemicals Agency;

"new installation" means any installation other than those defined under the definition of "existing installation";

"normal operation" means all periods of operation of an installation or activity except start-up and shutdown operations and

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maintenance of equipment;

"re-use" means the use of organic 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;

"start-up and shut-down operations" means operations excluding regularly oscillating activity phases whilst bringing an activity, an equipment item or a tank into or out of service or into or out of an idling state;

"total emissions" means the sum of fugitive emissions and emissions in waste gases;

"varnish" means a transparent coating;

"waste gases" means the final gaseous discharge containing volatile organic compounds or other pollutants, from a stack or abatement equipment into air;

Substitution of hazardous substances.

5. The competent authority shall ensure that 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, are assigned or need to carry the hazard statements H340, H350, H350i, H360D or H360F shall be replaced, as far as possible, by less harmful substances or mixtures within the shortest possible time.

Control of emissions.

6. (1) The competent authority shall ensure by specification in the conditions of the permit that sub-regulations (2) to (9) are complied with.

(2) All installations shall either comply with:

(a) the emission limit values in waste gases and the fugitive emission values, or the total emission limit values, and other requirements laid down in Schedules II and III; or

(b) the requirements of the reduction scheme specified in Schedule V, provided that an equivalent emission reduction is achieved compared to that achieved through the application of the emission limit values referred to in paragraph (a).

Derogations.

(3) (a) By way of derogation from sub-regulation (2)(a), where the operator demonstrates to the competent authority that for an individual installation the emission limit value for fugitive emissions is not technically and economically feasible, the competent

authority may allow emissions to exceed that emission limit value provided that significant risks to human health or the environment are not to be expected and that the operator demonstrates to the competent authority that the best available techniques are being used.

(b) By way of derogation from sub-regulation (2), for coating activities covered by item 8 of Schedule II which cannot be carried out under contained conditions, the competent authority may allow the emissions of the installation not to comply with the requirements set out in that paragraph if the operator demonstrates to the competent authority that such compliance is not technically and economically feasible and that the best available techniques are being used.

(4) The emissions of either volatile organic compounds which are assigned or need to carry the hazard statements H340, H350, H350i, H360D or H360F or halogenated volatile organic compounds which are assigned or need to carry the hazard statements H341 or H351, shall be controlled under contained conditions as far as technically and economically feasible to safeguard public health and the environment and shall not exceed the relevant emission limit values set out in sub-regulations (7) and (8).

(5) The competent authority shall ensure that installations where two or more activities are carried out, each of which exceeds the thresholds in Schedule II, shall:

(a) as regards the substances specified in regulation 5, meet the requirements of that regulation for each activity individually;

(b) as regards all other substances, either:

(i) meet the requirements of sub-regulation (2) for each activity individually; or

(ii) have total emissions not exceeding those that would have resulted had sub-paragraph (i) been applied.

(6) All appropriate precautions shall be taken to minimize emissions of volatile organic compounds during start-up and shut-down operations.

Emission limit values relating to volatile organic compounds with specific hazard statements and risk phrases.

(7) The competent authority shall ensure that for discharges of the volatile organic compounds referred to in regulation 5, where the mass flow of the sum of the compounds causing the labelling referred to in that regulation is greater than, or equal to 10 g/h, an emission limit value of 2 mg/Nm³ shall be complied with. The emission limit value refers to the mass sum of the individual compounds.

(8) The competent authority shall ensure that for discharges of halogenated volatile organic compounds which are assigned the hazard statements H341 or H351, where the mass flow of the sum of these compounds is greater than, or equal to, 100 g/h, an emission limit value of 20 mg/Nm³ shall be complied with. The emission limit value refers to the mass sum of the individual compounds. The discharge of volatile organic compounds referred to in this sub-regulation and regulation 5 shall be controlled as emissions from an installation under contained conditions as far as technically and economically feasible to safeguard public health and the environment.

(9) The competent authority shall ensure that discharges of those volatile organic compounds which, after the entry into force of these regulations, are assigned or need to carry one of the risk phrases mentioned in regulation 5 and sub-regulation (8), shall have to comply with the emission limit values mentioned in sub-regulations (7) and (8) respectively, within the shortest possible time.

Monitoring of emissions.

7. (1) The competent authority shall ensure that channels to which abatement equipment is connected, and which at the final point of discharge emit more than an average of 10 kg/h of total organic carbon, are monitored continuously for compliance.

(2) In the other cases, the competent authority shall ensure that either continuous or periodic measurements are carried out:

Provided that for periodic measurements at least three readings shall be obtained during each measurement exercise:

Provided further that measurements are not required in the case where end-of-pipe abatement equipment is not needed to comply with these regulations.

Compliance with emission limit values.

8. (1) In the case of continuous measurements the competent authority shall consider that emission limit values shall be complied with if:

(a) none of the averages over twenty-four hours of normal operation exceeds the emission limit values, and

(b) none of the hourly averages exceeds the emission limit values by more than a factor of 1.5.

(2) In the case of periodic measurements the emission limit values shall be considered by the competent authority to be complied with if, in one monitoring exercise:

(a) the average of all the readings does not exceed the emission limit values, and

(b) none of the hourly averages exceeds the emission limit value by more than a factor of 1.5.

(3) The competent authority shall ensure that compliance with the provisions of regulation 6(7) and (8) shall be verified on the basis of the sum of the mass concentrations of the individual volatile organic compounds concerned:

Provided that for all other cases, compliance shall be verified on the bases of the total mass of organic carbon emitted unless otherwise specified in Schedule II:P

Provided that gas volumes may be added to the waste gas for cooling or dilution purposes where technically justified but shall not be considered when determining the mass concentration of the pollutant in the waste gas.

9. (1) The competent authority shall request the operator of an installation covered by these regulations to supply to it once a year or on request, with any data that enables the competent authority to verify compliance with either of the following:

Reporting on compliance.

(a) emission limit values in waste gases, fugitive emission limit values and total emission limit values;

(b) the requirements of the reduction scheme under Schedule V;

(c) the derogations granted in accordance with regulation 6(3)(a) and (b).

This may include a solvent management plan prepared in accordance with Schedule IV.

10. (1) A change of the maximum mass input of organic solvents by an existing installation averaged over one day, where the installation is operated at its design output under conditions other than start-up and shut-down operations and maintenance of

Substantial change to existing installations.

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equipment, shall be considered as substantial if it leads to an increase of emissions of volatile organic compounds of more than:

(a) 25% for an installation carrying out either activities which fall within the lower threshold band of items 1, 3, 4, 5, 8, 10, 13, 16 or 17 of the table in Schedule II, or activities which fall under one of the other items of Schedule II, and with a solvent consumption of less than 10 tonnes per year;

(b) 10% for all other installations.

(2) Where an existing installation undergoes a substantial change, or falls within the scope of these regulations for the first time following a substantial change, that part of the installation which undergoes the substantial change shall be treated either as a new installation or as an existing installation, provided that the total emissions of the whole installation do not exceed those that would have resulted had the substantially changed part been treated as a new installation.

(3) In case of a substantial change, the competent authority shall check compliance with the requirements of these regulations.

Public access to
information.
S.L. 504.65

11. (1) Without prejudice to the Freedom of Access to Information on the Environment Regulations, the competent authority shall take the necessary measures to ensure that applications for permits for new installations or for substantial changes of those installations requiring a permit, are made available for an appropriate period of time to the public, to enable it to comment on them before the competent authority reaches a decision:

Provided that no obligation to reformat the information for the public is implied. The decision of the competent authority, including a copy of the permit, and any subsequent updates, shall also be made available to the public. The general binding rules applicable for installations and the list of installations subject to permitting and registration shall be made available to the public.

(2) The results of emission-monitoring as required under the permit conditions referred to in regulations 8 and 9 and held by the competent authority shall be made available to the public.

(3) Sub-regulations (1) and (2) shall apply, subject to the restrictions regarding grounds for refusal by public authorities to provide information, including commercial and industrial confidentiality, laid down in the Freedom of Access to Information on the Environment Regulations.

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12. Any person shall be guilty of an offence under these regulations if: Offences under these regulations.

(a) he fails to comply with any order lawfully given in terms of any provision of these regulations; or

(b) he contravenes any restriction, prohibition or requirement imposed by or under these regulations; or

(c) he acts in contravention of any of the provisions of these regulations; or

(d) he conspires or attempts, or aids, or abets, any other person by whatever means including advertising, counselling or procurement to contravene the provisions of these regulations or to fail to comply with any such provisions, including any order lawfully given in terms of any of the provision of these regulations, or to contravene any restriction, prohibition or requirement imposed by or under the said regulations.

13. Any person who commits an offence under these regulations shall, on conviction, be liable: Penalties.

(a) on a first conviction to a fine (*multa*) of not less than twenty-three thousand euro (€23,000) and not greater than two hundred and thirty-three thousand euro (€233,000) or to imprisonment for a term not exceeding two years, or to both such fine and imprisonment;

(b) on a second or subsequent convictions, to a fine (*multa*) of not less than forty-six thousand euro (€46,000) and not greater than four hundred and sixty-six thousand euro (€466,000) or to imprisonment for a term not exceeding two years, or to both such fine and imprisonment:

Provided that whenever any person is found guilty of committing an offence under these regulations by means of a vehicle, the owner of the said vehicle, where applicable, is held liable in the same manner and degree:

Provided further that the court shall order any person who has been found guilty of committing an offence against these regulations to pay for the expenses incurred by the competent authority as a result of the said offence, the revocation of the permit issued by the competent authority and the confiscation of the *corpus delicti*, including the vehicle, if applicable.

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Applicability of
the Criminal
Code.
Cap. 9.

14. (1) The provisions of articles 23 and 30 of the Criminal Code shall, *mutatis mutandis*, apply to proceedings in respect of offences against these regulations, so however that the disqualification from holding or obtain a permit shall in no case be for less than one year.

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(2) Notwithstanding the provisions of article 370 of the Criminal Code, proceedings for an offence against these regulations shall be taken before the Court of Magistrates (Malta) or the Court of Magistrates (Gozo), as the case may be, and shall be in accordance with the provisions of the Criminal Code regulating the procedure before the said courts as courts of criminal judicature.

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(3) Notwithstanding the provisions of the Criminal Code, the Attorney General shall always have a right of appeal to the Court of Criminal Appeal from any judgement given by the Court of Magistrates (Malta) or the Court of Magistrates (Gozo) in respect of proceedings for any offence against these regulations.

Revocation of
Limitation of
Emissions of
Volatile Organic
Compounds
Regulations,
2010.
L.N. 349 of
2010.

15. (1) The Limitation of Emissions of Volatile Organic Compounds Regulations, 2010, hereinafter referred to as "the revoked regulations" are revoked with effect from 7 January 2014.

(2) References to the revoked regulations shall be construed as references to these regulations.

Existing
installations
covered by the
Integrated
Pollution
Prevention and
Control
Regulations,
2002.
L.N. 234 of
2002.

16. (1) The provisions of these regulations shall apply from 7 January 2014 to installations carrying out the activities referred to in Schedule 1 of the Integrated Pollution Prevention and Control Regulations, 2002, which are in operation and hold a permit before 7 January 2013, or the operators of which have submitted a complete application for a permit before that date, provided that those installations are put into operation no later than 7 January 2014.

Existing
installations not
covered by the
Integrated
Pollution
Prevention and
Control
Regulations,
2002.
L.N. 234 of
2002.

(2) The provisions of these regulations shall apply from 7 July 2015 for installations carrying out the activities referred to in Schedule 1 of subsidiary legislation relating to Integrated Pollution Prevention and Control which are not covered by sub-regulation (1), and which are in operation before 7 January 2013. Such installations shall apply to the competent authority for a permit by 7 July 2013 at the latest.

Substitution of
hazardous
substances.

(3) The provisions of regulation 5 shall apply from 1 June 2015. Until that date, 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, 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, shall be replaced, as far as possible, by less harmful substances or mixtures within the shortest possible time.

(4) The provisions of regulation 6(4) shall apply from 1 June 2015. Until that date, the emissions of either volatile organic compounds which 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 or halogenated volatile organic compounds which are assigned or need to carry the hazard statements H341 or H351 or the risk phrases R40 or R68, shall be controlled under contained conditions, as far as technically and economically feasible, to safeguard public health and the environment and shall not exceed the relevant emission limit values set out in regulation 6(7) and (8).

(5) The provisions of regulation 6(8) shall apply from 1 June 2015. Until that date, for emissions of halogenated volatile organic compounds which are assigned or need to carry the hazard statements H341 or H351 or the risk phrases R40 or R68, where the mass flow of the sum of the compounds causing the hazard statements H341 or H351 or the labelling R40 or R68 is greater than, or equal to, 100 g/h, an emission limit value of 20 mg/Nm³ shall be complied with. The emission limit value refers to the mass sum of the individual compounds.

Emission limit values relating to volatile organic compounds with specific hazard statements and risk phrases.

(6) Permits issued under the revoked regulations shall be construed as valid under their term of expiry or until superseded by a permit issued under these regulations.

Validity of existing permits under the revoked regulations.

Schedule I

Technical provisions relating to installation and activities using organic solvents

This Schedule contains the categories of activity referred to in regulation 3. When operated above the thresholds listed in Schedule II, the activities mentioned in this Schedule fall within scope of these regulations. In each case the activity includes the cleaning of equipment but not the cleaning of products unless specified otherwise.

1. Adhesive coating

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

2. Coating activity

Any activity in which a single or multiple application of a continuous film of a coating is applied to:

(a) either of the following vehicles:

(i) new cars, defined as vehicles of category M1 in Directive 2007/46/EC of the European Parliament and of the Council of 5 September 2007 establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles and of category N1 in so far as they are coated at the same installation as M1 vehicles;

(ii) 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 2007/46/EC;

(iii) vans and trucks, defined as vehicles of categories N1, N2 and N3 in Directive 2007/46/EC, but not including truck cabins;

(iv) buses, defined as vehicles of categories M2 and M3 in Directive 2007/46/EC;

(v) trailers, defined in categories O1, O2, O3 and O4 in Directive 2007/46/EC;

(b) metallic and plastic surfaces including surfaces of airplanes, ships, trains, etc.;

(c) wooden surfaces;

(d) textile, fabric, film and paper surfaces;

(e) leather.

Coating activities do 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 Chapter V of the Directive if the printing activity falls within the scope thereof.

3. Coil coating

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

4. Dry cleaning

Any industrial or commercial activity using volatile organic compounds 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.

5. Footwear manufacture

Any activity of producing complete footwear or parts thereof.

6. Manufacturing of coating mixtures, varnishes, inks and adhesives 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 predispersion activities, viscosity and tint adjustments and operations for filling the final product into its container.

7. Manufacturing of pharmaceutical products

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

8. Printing

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 these regulations:

(a) 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;

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(b) 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 area 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;

(c) laminating associated to a printing activity - the adhering together of two or more flexible materials to produce laminates;

(d) publication rotogravure - a rotogravure printing activity used for printing paper for magazines, brochures, catalogues or similar products, using toluene-based inks;

(e) 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;

(f) 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 into the machine from a reel as distinct from separate sheets;

(g) 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.

9. Rubber conversion

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

10. Surface cleaning

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 of products.

11. Vegetable oil and animal fat extraction and vegetable oil refining activities

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.

12. Vehicle refinishing

Any industrial or commercial coating activity and associated degreasing activities performing either of the following:

(a) the original coating of road vehicles as defined in Directive 2007/46/EC or part of them with refinishing-type materials, where this is carried out away from the original manufacturing line;

(b) the coating of trailers (including semi-trailers) (category O in Directive 2007/46/EC).

13. Winding wire coating

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

14. Wood impregnation

Any activity giving a loading of preservative in timber.

15. Wood and plastic lamination

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

Schedule II

Thresholds and emission limit values

The emission limit values in waste gases shall be calculated at a temperature of 273,15 K, and a pressure of 101,3 kPa.

	Activity (solvent consumption threshold in tonnes/year)	Threshold (solvent consumption threshold in tonnes/year)	Emission limit values in waste gases (mg C/Nm ³)	Fugitive emission limit values (percentage of solvent input)		Total emission limit values		Special provisions
				New installations	Existing installations	New installations	Existing installations	
1	Heatset web offset printing (> 15)	15 - 25 > 25	100 20		30 ⁽¹⁾ 30 ⁽¹⁾			⁽¹⁾ Solvent residue in finished product is not to be considered as part of fugitive emissions.
2	Publication rotogravure (> 25)		75	10	15			
3	Other rotogravure, flexography, rotary screen printing, laminating or varnishing units (> 15) rotary screen printing on textile/ cardboard (> 30)	15 - 25 > 25 > 30 ⁽¹⁾	100 100 100		25 20 20			⁽¹⁾ Threshold for rotary screen printing on textile and on cardboard.
4	Surface cleaning using compounds specified in regulation 6(4). (> 1)	1- 5 > 5	20 ⁽¹⁾ 20 ⁽¹⁾		15 10			⁽¹⁾ Limit value refers to mass of compounds in mg/Nm ³ , and not to total carbon.
5	Other surface cleaning (> 2)	2 - 10 > 10	75 ⁽¹⁾ 75 ⁽¹⁾		20 ⁽¹⁾ 15 ⁽¹⁾			⁽¹⁾ Installations which demonstrate to the competent authority that the average organic solvent content of all cleaning material used does not exceed 30% by weight are exempt from application of these values.
6	Vehicle coating (< 15) and vehicle refinishing	> 0,5	50 ⁽¹⁾		25			⁽¹⁾ Compliance in accordance with regulation 8(2) shall be demonstrated based on 15 minute average measurements.
7	Coil coating (> 25)		50 ⁽¹⁾	5	10			⁽¹⁾ For installations which use techniques which allow reuse of recovered solvents, the emission limit value shall be 150.

	Activity (solvent consumption threshold in tonnes/year)	Threshold (solvent consumption threshold in tonnes/year)	Emission limit values in waste gases (mg C/Nm ³)	Fugitive emission limit values (percentage of solvent input)		Total emission limit values		Special provisions
				New installations	Existing installations	New installations	Existing installations	
8	Other coating, including metal, plastic, textile ⁽³⁾ , fabric, film and paper coating (> 5)	5 - 15 > 15	100 ⁽¹⁾ ⁽⁴⁾ 50/75 ⁽²⁾ ⁽⁴⁾		25 ⁽⁴⁾ 20 ⁽⁴⁾			(¹) Emission limit value applies to coating application and drying processes operated under contained conditions. (²) The first emission limit value applies to drying processes, the second to coating application processes. (³) For textile coating installations which use techniques which allow reuse of recovered solvents, the emission limit value applied to coating application and drying processes taken together shall be 150. (⁴) Coating activities which cannot be carried out under contained conditions (such as shipbuilding, aircraft painting) may be exempted from these values, in accordance with regulation 6(3)(b). (5) Rotary screen printing on textile is covered by activity No 3.
9	Winding wire coating (> 5)					10 g/kg ⁽¹⁾ 5 g/kg ⁽²⁾		(¹) Applies for installations where average diameter of wire ≤ 0,1 mm. (²) Applies for all other installations.
10	Coating of wooden surfaces (> 15)	15 -25 > 25	100 ⁽¹⁾ 50/75 ⁽²⁾		25 20			(¹) Emission limit value applies to coating application and drying processes operated under contained conditions. (²) The first value applies to drying processes, the second to coating application processes.
11	Dry cleaning					20 g/kg ⁽¹⁾ ⁽²⁾		(¹) Expressed in mass of solvent emitted per kilogram of product cleaned and dried. (²) The emission limit value in regulation 6(8) does not apply for this activity.
12	Wood impregnation (> 25)		100 ⁽¹⁾		45	11 kg/m ³		(¹) Emission limit value does not apply for impregnation with creosote.

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	Activity (solvent consumption threshold in tonnes/year)	Threshold (solvent consumption threshold in tonnes/year)	Emission limit values in waste gases (mg C/Nm ³)	Fugitive emission limit values (percentage of solvent input)		Total emission limit values		Special provisions
				New installations	Existing installations	New installations	Existing installations	
13	Coating of leather (> 10)	10 -25 > 25 > 10 ⁽¹⁾				85 g/m ² 75 g/m ² 150 g/m ²		Emission limit values are expressed in grams of solvent emitted per m ² of product produced. ⁽¹⁾ For leather coating activities in furnishing and particular leather goods used as small consumer goods like bags, belts, wallets, etc.
14	Footwear manufacture (> 5)					25 g per pair		Total emission limit value is expressed in grams of solvent emitted per pair of complete footwear produced.
15	Wood and plastic lamination (> 5)					30 g/m ²		
16	Adhesive coating (> 5)	5 - 15 > 15	50 ⁽¹⁾ 50 ⁽¹⁾	25 20				⁽¹⁾ If techniques are used which allow reuse of recovered solvent, the emission limit value in waste gases shall be 150.
17	Manufacture of coating mixture, varnishes, inks and adhesives (> 100)	100 - 1 000 > 1 000	150 150	5 3		5% of solvent input 3% of solvent input		The fugitive emission limit value does not include solvent sold as part of a coatings mixture in a sealed container.
18	Rubber conversion (> 15)		20 ⁽¹⁾	25 ⁽²⁾		25% of solvent input		⁽¹⁾ If techniques are used which allow reuse of recovered solvent, the emission limit value in waste gases shall be 150. ⁽²⁾ The fugitive emission limit value does not include solvent sold as part of products or mixtures in a sealed container.

	Activity (solvent consumption threshold in tonnes/year)	Threshold (solvent consumption threshold in tonnes/year)	Emission limit values in waste gases (mg C/Nm ³)	Fugitive emission limit values (percentage of solvent input)		Total emission limit values		Special provisions
				New installations	Existing installations	New installations	Existing installations	
19	Vegetable oil and animal fat extraction and vegetable oil refining activities (> 10)					Animal fat: 1,5 kg/tonne Castor: 3 kg/tonne Rape seed: 1 kg/tonne Sunflower seed: 1 kg/tonne Soya beans (normal crush): 0,8 kg/tonne Soya beans (white flakes): 1,2 kg/tonne Other seeds and other vegetable matter: 3 kg/tonne ⁽¹⁾ 1,5 kg/tonne ⁽²⁾ 4 kg/tonne ⁽³⁾		⁽¹⁾ Total emission limit values for installations processing individual batches of seeds and other vegetable matter should be set by the competent authority on a case-by-case basis, applying the best available techniques. ⁽²⁾ Applies to all fractionation processes excluding de-gumming (the removal of gums from the oil). ⁽³⁾ Applies to de-gumming.
20	Manufacturing of pharmaceutical products (> 50)		20 ⁽¹⁾	5 ⁽²⁾	15 ⁽²⁾	5% of solvent input	15% of solvent input	⁽¹⁾ If techniques are used which allow reuse of recovered solvent, the emission limit value in waste gases shall be 150. ⁽²⁾ The fugitive emission limit value does not include solvent sold as part of products or mixtures in a sealed container.

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Schedule III

Emission limit values for installations of the vehicle coating industry

1. The total emission limit values are expressed in terms of grams of organic solvent emitted in relation to the surface area of product in square metres and in kilograms of organic solvent emitted in relation to the car body.

2. The surface area of any product dealt with in the table under point 3 is defined as the surface area calculated from the total electrophoretic coating area, and the surface area of any parts that might be added in successive phases of the coating process which are coated with the same coatings as those used for the product in question, or the total surface area of the product coated in the installation.

The surface of the electrophoretic coating area is calculated using the following formula:

$$\frac{2 \times \text{total weight of product shell}}{\text{average thickness of metal sheet} \times \text{density of metal sheet}}$$

This method shall also be applied for other coated parts made out of sheets.

Computer aided design or other equivalent methods shall be used to calculate the surface area of the other parts added, or the total surface area coated in the installation.

3. The total emission limit values in the table below refer to all process stages carried out at the same installation from electrophoretic coating, or any other kind of coating process, through to the final wax and polish of topcoating inclusive, as well as solvent used in cleaning of process equipment, including spray booths and other fixed equipment, both during and outside of production time.

Activity (solvent consumption threshold in tonnes/year)	Production threshold (refers to annual production of coated item)	Total emission limit value	
		New installations	Existing installations
Coating of new cars (> 15)	> 5 000	45 g/m ² or 1,3 kg/body + 33 g/m ²	60 g/m ² or 1,9 kg/body + 41 g/m ²
	≤ 5 000 monocoque or > 3 500 chassis-built	90 g/m ² or 1,5 kg/body + 70 g/m ²	90 g/m ² or 1,5 kg/body + 70 g/m ²
		Total emission limit value (g/m ²)	
Coating of new truck cabins (> 15)	≤ 5 000	65	85
	> 5 000	55	75
Coating of new vans and trucks (> 15)	≤ 2 500	90	120
	> 2 500	70	90

Activity (solvent consumption threshold in tonnes/year)	Production threshold (refers to annual production of coated item)	Total emission limit value	
		New installations	Existing installations
Coating of new buses (> 15)	≤ 2 000	210	290
	> 2 000	150	225

4. Vehicle coating installations below the solvent consumption thresholds mentioned in the table under point 3 shall meet the requirements for the vehicle refinishing sector set out in Schedule II.

Schedule IV

Solvent management plan

1. Principles

The solvent management plan shall be used to:

- (a) verify compliance as specified in regulation 9;
- (b) identify future reduction options;
- (c) enable provision of information on solvent consumption, solvent emissions and compliance with the requirements of these regulations to the public.

2. Definitions

The following definitions provide a framework for the mass balance exercise.

Inputs of organic solvents (I):

- I1 The quantity of organic solvents or their quantity in mixtures purchased which are used as input into the process in the time frame over which the mass balance is being calculated.
- I2 The quantity of organic solvents or their quantity in mixtures recovered and reused as solvent input into the process. The recycled solvent is counted every time it is used to carry out the activity.

Outputs of organic solvents (O):

- O1 Emissions in waste gases.
- O2 Organic solvents lost in water, taking into account waste water

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treatment when calculating O5.

- O3 The quantity of organic solvents which remains as contamination or residue in products output from the process.
 - O4 Uncaptured emissions of organic solvents into air. This includes the general ventilation of rooms, where air is released to the outside environment via windows, doors, vents and similar openings.
 - O5 Organic solvents and/or organic compounds lost due to chemical or physical reactions (including those which are destroyed, by incineration or other waste gas or waste water treatments, or captured, as long as they are not counted under O6, O7 or O8).
 - O6 Organic solvents contained in collected waste.
 - O7 Organic solvents, or organic solvents contained in mixtures, which are sold or are intended to be sold as a commercially valuable product.
 - O8 Organic solvents contained in mixtures recovered for reuse but not as input into the process, as long as not counted under O7.
 - O9 Organic solvents released in other ways.
3. Use of the solvent management plan for verification of compliance.

The use made of the solvent management plan shall be determined by the particular requirement which is to be verified, as follows:

(a) verification of compliance with the reduction scheme as set out in Schedule V, with a total emission limit value expressed in solvent emissions per unit product, or otherwise stated in Schedules II and III:

(i) for all activities using the reduction scheme as set out in Schedule V, the solvent management plan shall be drawn up annually to determine the consumption (C). The consumption shall be calculated according to the following equation:

$$C = I1 - O8$$

A parallel exercise shall also be undertaken to determine solids used in coating in order to derive the annual reference emission and the target emission each year;

(ii) for assessing compliance with a total emission limit value expressed in solvent emissions per unit product or otherwise stated in Schedules II and III, the solvent management plan shall be drawn up annually to determine the emissions (E). The emissions shall be

calculated according to the following equation:

$$E = F + O1$$

Where F is the fugitive emission as defined in point (b)(i). The emission figure shall then be divided by the relevant product parameter.

(iii) for assessing compliance with the requirements of paragraph (b)(ii) of regulation 6(5), the solvent management plan shall be drawn up annually to determine total emissions from all activities concerned, and that figure shall then be compared with the total emissions that would have resulted had the requirements of Schedules II, III and V been met for each activity separately.

(b) Determination of fugitive emissions for comparison with the fugitive emission limit values in Schedule II:

(i) The fugitive emission shall be calculated according to one of the following equations:

$$F = I1 - O1 - O5 - O6 - O7 - O8$$

or

$$F = O2 + O3 + O4 + O9$$

F shall be determined either by direct measurement of the quantities or by an equivalent method or calculation, for instance by using the capture efficiency of the process.

The fugitive emission limit value is expressed as a proportion of the input, which shall be calculated according to the following equation:

$$I = I1 + I2$$

(ii) Determination of fugitive emissions shall be done by a short but comprehensive set of measurements and needs not be done again until the equipment is modified.

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Schedule V

Reduction Scheme

1. The operator may use any reduction scheme, specially designed for his installation.

2. In the case of applying coatings, varnishes, adhesives or inks, the following scheme can be used. Where the following method is inappropriate, the competent authority may allow an operator to apply any alternative scheme achieving equivalent emission reductions to those achieved if the emission limit values of Schedules II and III were to be applied. The design of the scheme shall take into account the following facts:

(a) where substitutes containing little or no solvent are still under development, a time extension shall be given to the operator to implement his emission reduction plans;

(b) the reference point for emission reductions should correspond as closely as possible to the emissions which would have resulted had no reduction action been taken.

3. The following scheme shall operate for installations for which a constant solid content of product can be assumed:

(a) The annual reference emission is calculated as follows:

(i) The total mass of solids in the quantity of coating and/or ink, varnish or adhesive consumed in a year is determined. Solids are all materials in coatings, inks, varnishes and adhesives that become solid once the water or the volatile organic compounds are evaporated.

(ii) The annual reference emissions are calculated by multiplying the mass determined in (i) by the appropriate factor listed in the table below. Competent authorities may adjust these factors for individual installations to reflect documented increased efficiency in the use of solids.

Activity	Multiplication factor for use in item (a)(ii)
Rotogravure printing; flexography printing; laminating as part of a printing activity; varnishing as part of a printing activity; wood coating; coating of textiles, fabric film or paper; adhesive coating	4
Coil coating, vehicle refinishing	3
Food contact coating, aerospace coatings	2,33
Other coatings and rotary screen printing	1,5

(b) The target emission is equal to the annual reference emission multiplied by a percentage equal to:

(i) (the fugitive emission limit value + 15), for installations falling within item 6 and the lower threshold band of items 8 and 10 of Schedule II,

(ii) (the fugitive emission limit value + 5) for all other installations.

(c) Compliance is achieved if the actual solvent emission determined from the solvent management plan is less than or equal to the target emission.

