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**Government decree
on the limitation of emissions of volatile organic
compounds due to the use of organic solvents in certain
paints and varnishes and vehicle refinishing products**

837/2005

Issued in Helsinki, October 20, 2005

By decision of the Government, made on the submission of the Ministry of the Environment, the following is decreed on the basis of the Environmental Protection Act (86/2000) of February 4, 2000:

Section 1

Aim and scope

- (1) The aim of this Decree is to prevent environmental pollution, especially air pollution, that results from the contribution of volatile organic compounds to the formation of ground-level ozone. To achieve this aim, limits are placed on the maximum content of these compounds in certain paints and varnishes and vehicle refinishing products as laid down below.
- (2) This Decree applies to the paints and varnishes referred to in Appendix 1, which are applied to buildings, their trim and fittings and associated structures for functional, decorative or protective purposes, with the exception of aerosols. This Decree also applies to the vehicle refinishing products referred to in Appendix 1, which are used in coating vehicles defined in the Vehicles Act (1090/2002), or part of them, carried out as part of vehicle re-

pair, conservation or decoration outside of manufacturing installations.

- (3) This Decree does not apply to products that are sold for use in activities or installations falling within the scope of the Government decree on the limitation of emissions of volatile organic compounds caused by use of organic solvents in certain activities and installations (435/2001) which have been granted an environmental permit under section 28 of the Environmental Protection Act (86/2000), or for which an application for such a permit has been made, or for which notification has been submitted for entry in the environmental protection database in accordance with section 65 of the Environmental Protection Act, and which comply with the requirements of the Decree referred to above no later than 31 October 2007.
- (4) Separate provisions have been issued on protecting the health of consumers and employees and on protecting the work environment.

Section 2
Definitions

- (1) In this Decree,
- 1) *substances* means chemical elements and their compounds as they occur in the natural state or as produced by industry;
 - 2) *preparation* means mixtures or solutions composed of two or more substances;
 - 3) *organic compound* means a compound containing carbon and at least one of the following substances: hydrogen, oxygen, sulphur, phosphorus,

silicon or nitrogen, or a halogen, but not carbon oxides, inorganic carbonates or bicarbonates;

4) *volatile organic compound (VOC)* means an organic compound with a boiling point of no more than 250°C at a standard atmospheric pressure of 101.3 kPa;

5) *VOC content* means the amount, in grams per litre, of volatile organic compounds in the form in which they appear in a ready-to-use product, but not the amount of those volatile organic compounds in a given product that react chemically during drying to form part of the coating;

6) *organic solvent* means a VOC-containing solvent used alone or in combination with other substances to dissolve or dilute raw materials, products or waste materials, or used as a cleaning agent to dissolve contaminants, or as a solvent, a dispersion medium, a viscosity adjuster, a surface tension adjuster, a plasticiser or a preservative;

7) *coating* means a preparation containing organic solvents which is used to give a decorative, protective or other functional effect to a surface;

8) *film* means a continuous layer resulting from the application of one or more coats to a surface;

9) *water-borne coating (WB)* means a coating the viscosity of which is adjusted using water;

10) *solvent-borne coating (SB)* means a coating the viscosity of which is adjusted using organic solvent;

11) *placing on the market* means making a product available to third parties, whether in exchange for payment or not, and importation into the European Community customs territory.

Section 3

Limit values on VOC content of products

- (1) The VOC content of paints and varnishes referred to in item 1 of Appendix 1 which are to be placed on the market may not exceed the Phase I limit values given in Table 1 of Appendix 2, nor may the VOC content of vehicle refinishing products specified in item 2 of Appendix 1 exceed the limit values given in Table 2 of Appendix 2, from 1 January 2007.
- (2) The VOC content of paints and varnishes specified in item 1 of Appendix 1 which are to be placed on the market may not exceed the Phase II limit values given in Table 1 of Appendix 2 from 1 January 2010.

Section 4

Product labelling

- (1) Products to be placed on the market must be labelled in such a way that the label indicates the product subcategory as referred to in Appendix 1 and the limit value, in grams per litre, for the product's VOC content as specified in Appendix 2, and, , the maximum VOC content in grams per litre of the product in a ready to use condition.

Section 5

Exemption allowing the sale or purchase of products needed in the conservation or repair of old vehicles

- (1) The Finnish Environment Institute may, on application, grant an exemption allowing the sale or for-

warding of products with a VOC content that exceeds the limit value given in Table 2 of Appendix 2 if the products are sold or forwarded for use in the conservation or repair of a vehicle of historic interest as referred to in section 24 of the Vehicles Act (1090/2002) or an old vehicle intended to be classified as a vehicle of historic interest.

- (2) If the seller has not been granted the exemption referred to in subsection 1 above, the party conserving or repairing the old vehicle has to apply to the Finnish Environment Institute for an exemption allowing the purchase or importation of these products. The exemption can be granted if the matter concerns a vehicle of historic interest as referred to in section 24 of the Vehicles Act or an old vehicle intended to be classified as a vehicle of historic interest.

Section 6

Exemption allowing the sale of products needed for restoring or maintaining a building of particular historic and cultural value

- (1) The Finnish Environment Institute may grant an exemption allowing the sale or forwarding of products with a VOC content that exceeds the limit value given in Table 1 of Appendix 2 if the products are sold or forwarded for use in the restoration or maintenance of the following sites or buildings of particular historic and cultural value:
- 1) valuable buildings or areas protected in a local detailed plan;
 - 2) sites designated as building conservation areas in a local detailed plan;

- 3) sites that are protected under the Act on the Protection of Buildings (60/1985), the Church Act (1054/1993), the Antiquities Act (295/1963) or the Decree on the Protection of State-Owned Buildings (480/1985);
- 4) sites declared to be of architecturally historic value or of cultural value in national, regional or local inventories;
- 5) sites that have been approved for inclusion in the World Heritage List created under the Convention for the Protection of the World Cultural and Natural Heritage (Finnish Treaty Series 19/1987);
- 6) sites that have been granted National Board of Antiquities funding for building restoration under section 19 of the Act on the Protection of Buildings or funding for architectural heritage management from a regional environment centre;
- 7) other sites of particular historic and cultural value that are comparable to the sites referred to in paragraphs 1-6.

Section 7

Exemption allowing the purchase of products needed for restoring or maintaining a building of particular historic and cultural value

- (1) If the seller has not been granted the exemption referred to in section 6, the party restoring or maintaining the building has to apply to the Finnish Environment Institute for an exemption for the purchase or importation of the product.
- (2) Where a site that is approved for inclusion in the World Heritage List created under the Convention for

the Protection of the World Cultural and Natural Heritage contains several buildings, the exemption may also be applied for by a representative of those who own or maintain the buildings. An exemption for all the site's buildings may be applied for with a single application.

Section 8

Content of an application for an exemption

- (1) An application for an exemption under sections 5-7 above must contain:
 - a) the applicant's name and contact details;
 - b) information about whether permission is being sought to purchase or to sell a product;
 - c) details concerning the end use for the product and whether the product is needed for restoring or maintaining a building of particular historic and cultural value or a vehicle;
 - d) information on the product subcategory as per Appendix 1;
 - e) the total quantity of the product to be purchased or sold;
 - f) the VOC content of the product.
- (2) The application must be accompanied by a statement from the National Board of Antiquities or other museum authority, or some other documentation, concerning the building's historic and cultural significance if the application concerns an exemption for a product to be used in restoring or maintaining a building of particular historic and cultural

value. An application concerning a product needed in the repair or conservation of a vehicle must be accompanied by information showing that the vehicle is a vehicle of historic interest or a vehicle intended to be classified as a vehicle of historic interest.

Section 9

Processing charge

- (1) The Finnish Environment Institute may impose a charge for processing an exemption application in accordance with the Decree of the Ministry of the Environment on the chargeable services of the Finnish Environment Institute (1240/2003).

Section 10

Methods for determining the VOC content

- (1) The analysis methods given in Appendix 3 have to be used when determining the VOC content of products.

Section 11

Supervision

- (1) The Finnish Environment Institute is responsible for organizing supervision of this Decree and will draw up a monitoring programme for monitoring compliance with the Decree's provisions. Compliance with the Decree's provisions shall be monitored by the supervision authorities referred to in section 22(1) of the Environmental Protection Act.
- (2) If necessary, the monitoring programme can be amended on the initiative taken by the Finnish Environment Institute or the Ministry of the Environment.

*Section 12**Supply and processing of information*

- (1) A seller or importer that sells or forwards products referred to in Appendix 2 or in sections 5-7 has to, each year before the end of March, supply the Finnish Environment Institute with information on the previous calendar year concerning the quantities of products it imported and sold and the end uses for those products. This information shall be supplied for the first time concerning the year 2007. The Finnish Environment Institute will draw up a report on the information and submit it to the Ministry of the Environment by the end of the following June.

*Section 13**Placing on the market*

- (1) Products which are shown by the manufacturer or importer to have been manufactured before 1 January 2007 with regard to Phase I, or before 1 January 2010 with regard to Phase II, and whose VOC content exceeds the limit values given in Appendix 2 and which have not been labelled in accordance with section 4 may only be placed on the market before 31 December 2007 in Phase I and before 31 December 2010 in Phase II.

Section 14

This decree comes into force on October 31, 2005.

Appendix 1**PAINTS, VARNISHES AND VEHICLE REFINISHING PRODUCTS
FALLING WITHIN THE SCOPE OF THIS DECREE**

1. Paint and varnish subcategories

a) 'Matt coatings for interior walls and ceilings' means coatings with a gloss of no more than 25 units at an angle of reflection of 60° which are designed for application to indoor walls and ceilings.

b) 'Gloss coatings for interior walls and ceilings' means coatings with a gloss of more than 25 units at an angle of reflection of 60° which are designed for application to indoor walls and ceilings.

c) 'Coatings for exterior walls of mineral substrate' means coatings designed for application to outdoor walls of render, concrete, brick or gypsum plaster.

d) 'Interior and exterior trim and cladding paints for wood, metal or plastic' means coatings designed for application to trim and cladding which form an opaque film. These coatings are designed for either wood, metal or plastic surfaces. This subcategory includes undercoats and intermediate coats.

e) 'Interior and exterior trim varnishes and woodstains' means coatings designed for application to indoor and outdoor trim which produce a transparent or semi-transparent film for decoration and protection of wood, metal and plastic. This subcategory also includes opaque woodstains 'Opaque woodstains' means coatings used for the decoration and protection of wood that form an opaque, weatherproof film in accordance with standard EN 927-1 (within the semi-stable category).

f) 'Minimal build woodstains' means woodstains which, in accordance with standard EN 927-1:1996, form a film of average thickness less than 5 µm when measured according to ISO 2808: 1997, method 5A.

g) 'Primers' means coatings with sealing and/or blocking properties designed for use on wood surfaces or walls and ceilings.

h) 'Binding primers' means coatings designed to bind and strengthen loose substrate particles or impart hydrophobic properties and/or to protect wood against blue stain.

i) 'One-pack performance coatings' means performance coatings based on film-forming material. They are designed for applications requiring special properties, such as primer and topcoats for plastics, primer for ferrous substrates, primer for reactive metals such as zinc and aluminium, anticorrosion finishes, floor coatings, including for wood and cement floors, graffiti resistance, flame retardant, and for purposes that are required to meet the hygiene standards of the food and drinks industry or of health care.

j) 'Two-pack performance coatings' means coatings with the same use as one-pack performance coatings, but with a second component (e.g. tertiary amines) added prior to application.

k) 'Multicoloured coatings' means coatings designed to give a two-tone or multiple-colour effect, directly from the primary application.

l) 'Decorative effect coatings' means coatings designed to give a special aesthetic effect over specially prepared pre-painted substrates or base coats and subsequently treated with various tools during the drying period.

2. Vehicle refinishing product subcategories

a) 'Preparatory and cleaning substances' means products designed to remove old coatings and rust, either mechanically or chemically, or to provide a key for new coatings.

- i) Preparatory products include gunwash (a product designed for cleaning spray-guns and other equipment), paint strippers, degreasers (including anti-static types for plastic) and silicone removers.
- ii) 'Precleaner' means a product designed for the removal of surface contamination during preparation and prior to the application of coating materials.

b) 'Bodyfiller/stopper' means heavy-bodied compounds designed to be applied to fill deep surface imperfections prior to the application of the surfacer/filler.

c) 'Primer' means a coating designed to be applied to bare metal or existing finishes to provide corrosion protection prior to application of a surfacer or topcoat.

- i) 'Surfacer/filler' means a coating designed for application immediately prior to the application of topcoat for corrosion resistance, to ensure adhesion of the topcoat, and to promote the formation of a uniform surface by filling in minor surface imperfections.
- ii) 'General metal primer' means a coating designed for application as a primer, such as adhesion promoters, sealers and blockers, surfacers, undercoats, plastic primers, wet-on-wet, non-sand fillers and stoppers, and spray fillers and stoppers.

iii) 'Wash primer' means a coating containing at least 0.5% by weight of phosphoric acid designed to be applied directly to bare metal surfaces to provide corrosion resistance and to promote adhesion. They also include coatings used as weldable primers and mordant solutions for galvanized and zinc surfaces.

d) 'Topcoat' means a pigmented coating designed to be applied as a single layer or in multiple layers to provide colour, gloss and durability. It includes all products used for this purpose, such as base coatings and clear coatings.

i) 'Base coating' means a pigmented coating designed to provide a surface with colour and any desired optical effects, but which do not provide gloss or resistance properties.

ii) 'Clear coating' means a transparent coating designed to provide the final gloss and resistance properties of the coating system.

e) 'Special finishes' means coatings used as topcoats with special properties, such as metallic or pearl effect, in a single layer, high-performance solid-colour (non-metallic) and clear coats (e.g. anti-scratch and fluorinated clear coat), reflective base coats, texture finishes (e.g. hammer), anti-slip, under-body sealers, anti-chip coatings and interior finishes, and all types of aerosol.

Appendix 2

**MAXIMUM VOC CONTENT LIMIT VALUES FOR PAINTS AND VARNISHES
AND FOR VEHICLE REFINISHING PRODUCTS**

Table 1

Maximum VOC content limit values for paints and varnishes

	Product subcategory	Type	Phase I (g/l*) (from 1.1.2007)	Phase II (g/l*) (from 1.1.2010)
a	Matt coatings for interior walls and ceilings (gloss no more than 25 units at an angle of reflection of 60°)	WB SB	75 400	30 30
b	Gloss coatings for interior walls and ceilings (gloss more than 25 units at an angle of reflection of 60°)	WB SB	150 400	100 100
c	Coatings for exterior walls of mineral substrate	WB SB	75 450	40 430
d	Interior and exterior trim and cladding paints for wood and metal	WB SB	150 400	130 300
e	Interior and exterior trim varnishes and woodstains, including opaque woodstains	WB SB	150 500	130 400
f	Minimal build woodstains	WB SB	150 700	130 700
g	Primers	WB SB	50 450	30 350
h	Binding primers	WB SB	50 750	30 750
i	One-pack performance coatings	WB SB	140 600	140 500
j	Two-pack reactive performance coatings for specific end use such as floors	WB SB	140 550	140 500
k	Multi-coloured coatings	WB SB	150 400	100 100
l	Decorative effect coatings	WB SB	300 500	200 200

*g/l of ready-to-use product

Table 2

Maximum VOC content limit values for vehicle refinishing products

	Product sub-category	Coatings	VOC g/l* (1.1.2007)
a	Preparatory and cleaning substances	Preparatory Pre-cleaner	850 200
b	Bodyfillers/ stoppers	All types	250
c	Primers	Surfacer/ filler and general metal primers Wash primers	540 780
d	Topcoats	All types	420
e	Special finishes	All types	840

*g/l of ready-to-use product. Except for subcategory a, any water content of the ready-to-use product should be discounted

Appendix 3

METHODS FOR DETERMINING THE VOC CONTENT

Table 3

Methods for determining the VOC content, as referred to in section 10

Parameter	Unit	Test	
		Method	Date of publication
VOC content	g/l	ISO 11890-2	2002
VOC content if the product contains reactive diluents	g/l	ASTMD 2369	2003