

**AIR POLLUTION CONTROL (VOLATILE ORGANIC COMPOUNDS) REGULATION
- CHAPTER 311W**

LONG TITLE

Empowering section VerDate:01/04/2007

(Cap 311, section 43)

[1 April 2007]

(Originally L.N. 20 of 2007)

SECT 1

(Omitted as spent) VerDate:01/04/2007

PART 1

PRELIMINARY

(Omitted as spent)

SECT 2

Interpretation VerDate:01/01/2010

In this Regulation, unless the context otherwise requires:

“aerosol coating” means a pressurized coating product that:

- (a) contains pigments or resins;
 - (b) dispenses product ingredients by means of a propellant; and
 - (c) is packaged in a disposable can for hand-held application;
- (L.N. 107 of 2009)

“ASTM” in relation to a test method, means the test method published by ASTM International;

“coating” means a material that is applied to a surface in order to beautify, protect or provide a barrier to such surface, but does not include an aerosol coating; (L.N. 107 of 2009)

“colourant” means a solution of dyes or a suspension of pigments;

“container” means the part or parts of any regulated product that serve only to contain, enclose, incorporate, deliver, dispense, wrap or store the chemically formulated substance or mixture of substances that is solely responsible for accomplishing the purpose for which the regulated product was designed or intended;

“diluent” means a liquid such as an organic solvent, thinner or water which when added to a regulated product reduces its viscosity;

“document” includes a book, voucher, receipt or data material, or information that is recorded in a non-legible form but is capable of being reproduced in a legible form;

“exempt compound” in relation to:

(a) a regulated architectural paint, means an exempt compound within the meaning of Part 1 of Schedule 1;

(b) a regulated printing ink, means an exempt compound within the meaning of Part 1 of Schedule 2;

(c) a regulated consumer product listed in section 1 of Part 2 of Schedule 3, means an exempt compound within the meaning of section 2 of Part 2 of Schedule 3;

(d) a regulated consumer product listed in Parts 3, 4 and 5 of Schedule 3, means an exempt compound within the meaning of Part 6 of Schedule 3;

(e) a lithographic heatset web printing machine, means an exempt compound within the meaning of Schedule 4;

(f) (Repealed L.N. 192 of 2009)

(g) a regulated vessel paint, means an exempt compound within the meaning of Part 1 of Schedule 6;

(h) a regulated pleasure craft paint, means an exempt compound within the meaning of Part 1 of Schedule 6;

(i) a regulated adhesive, means an exempt compound within the meaning of Part 1 of Schedule 7; and

(j) a regulated sealant, means an exempt compound within the meaning of Part 1 of Schedule 7; (L.N. 107 of 2009)

“goods in transit” means regulated products that are brought into Hong Kong solely for the purpose of taking them out of Hong Kong and that remain at all times on the vessel or aircraft that brought them into Hong Kong;

“importer” means a person by or for whom a regulated product is or was brought, or caused to be brought, into Hong Kong, and includes a person who, at or immediately after the time a regulated product is or was brought, or caused to be brought, into Hong Kong, is or was in possession of or entitled to the custody or control of the product, whether as owner, consignee, agent or broker; (L.N. 107 of 2009 and L.N. 192 of 2009)

“label” means any written, printed or graphic matter affixed to, applied to, attached to, blown into, formed on, moulded into, embossed on or appearing upon an article;

“manufacture” in relation to a regulated product, means to prepare, produce, pack, repack or assemble the product, but does not include any act involved in the process of solely adding colourant to the tint base of a regulated product;

“manufacturer” means a person who manufactures in Hong Kong a regulated product;

“Method 316A” has the meaning given by Part 1 of Schedule 7;
(L.N. 107 of 2009)

“NIOSH” means the National Institute for Occupational Safety and Health of the United States;

“packaging” includes any article onto or into which the principal display panel and other accompanying literature or graphics are incorporated, etched, printed or attached;

“portable sealant or caulking compound” has the meaning given by Part 1 of Schedule 7; (L.N. 107 of 2009)

“prescribed limit” in relation to:

(a) a regulated architectural paint, means the maximum limit of the volatile organic compound content specified for that regulated architectural paint in Part 2, 3 or 4 of Schedule 1 (as may be applicable); (L.N. 107 of 2009)

(b) a regulated printing ink, means the maximum limit of the volatile organic compound content specified for that regulated printing ink in Part 2 or 3 of Schedule 2 (as may be applicable); (L.N. 107 of 2009)

(c) a regulated consumer product, means the maximum limit of the volatile organic compound content specified for that regulated consumer product in Part 2, 3 or 4 of Schedule 3 (as may be applicable);

(d) a regulated vehicle refinishing paint, means the maximum limit of the volatile organic compound content specified for that regulated vehicle refinishing paint in Part 2 of Schedule 5; (L.N. 107 of 2009)

(e) a regulated vessel paint, means the maximum limit of the volatile organic compound content specified for that regulated vessel paint in Part 2 or 3 of Schedule 6 (as may be applicable); (L.N. 107 of 2009)

(f) a regulated pleasure craft paint, means the maximum limit of the volatile organic compound content specified for that regulated pleasure craft paint in Part 4 or 5 of Schedule 6 (as may be applicable); (L.N. 107 of 2009)

(g) a regulated adhesive, means the maximum limit of the volatile organic compound content specified for that regulated adhesive in Part 2, 3 or 4 of Schedule 7 (as may be applicable); and (L.N. 107 of 2009)

(h) a regulated sealant, means the maximum limit of the volatile organic compound content specified for that regulated sealant in Part 5 of Schedule 7; (L.N. 107 of 2009)

“reactive diluents” means a liquid:

(a) that is a volatile organic compound during application; and

(b) in which, through chemical or physical reaction, such as polymerization, 20% or more of the volatile organic compound becomes an integral part of the finished material as determined by Method 316A; (L.N. 107 of 2009)

“ready to use condition” means:

(a) unless paragraph (b) applies, the condition of a product in which it is supplied in the packaging or container; or

(b) if dilution with solvent or thinner or mixing of components is recommended on a product, the condition of the product with the maximum volatile organic compound content after dilution or mixing according to the dilution or mixing ratio recommended on the product; (L.N. 107 of 2009)

“regulated adhesive” means, subject to section 2A, a regulated adhesive listed in Part 2, 3 or 4 of Schedule 7; (L.N. 107 of 2009)

“regulated architectural paint” means, subject to section 2A, a regulated architectural paint listed in Part 2, 3 or 4 of Schedule 1; (L.N. 107 of 2009)

“regulated consumer product” means, subject to section 2A, a regulated consumer product listed in Part 2, 3 or 4 of Schedule 3; (L.N. 107 of 2009)

“regulated pleasure craft paint” means, subject to section 2A, a regulated pleasure craft paint listed in Part 4 or 5 of Schedule 6; (L.N. 107 of 2009)

“regulated printing ink” means, subject to section 2A, a regulated printing ink listed in Part 2 or 3 of Schedule 2; (L.N. 107 of 2009)

“regulated product” means a regulated architectural paint, a regulated printing ink, a regulated consumer product, a regulated vehicle refinishing paint, a regulated vessel paint, a regulated pleasure craft paint, a regulated adhesive or a regulated sealant; (L.N. 107 of 2009)

“regulated sealant” means, subject to section 2A, a regulated sealant listed in Part 5 of Schedule 7; (L.N. 107 of 2009)

“regulated vehicle refinishing paint” means, subject to section 2A, a regulated vehicle refinishing paint listed in Part 2 of Schedule 5; (L.N. 107 of 2009)

“regulated vessel paint” means, subject to section 2A, a regulated vessel paint listed in Part 2 or 3 of Schedule 6; (L.N. 107 of 2009)

“sale” includes:

(a) offer or expose for sale;

(b) supply without payment; and

(c) offer or expose for supply without payment;

“tint base” means a coating to which colourants are to be added;

“transshipment” means the importation of a regulated product that:

(a) is consigned on a through bill of lading or a through air waybill from a place outside Hong Kong to another place outside Hong Kong;
and

(b) is or is to be removed from the vessel, vehicle or aircraft in which it was imported, and, before being exported, is either:

(i) returned to the same vessel, vehicle or aircraft; or

(ii) transferred to another vessel, vehicle or aircraft, whether it is or is to be transferred directly between such vessels, vehicles or aircrafts or whether it is to be landed in Hong Kong after its importation and stored, pending exportation;

“US EPA” means the United States Environmental Protection Agency;

“volatile organic compound” in relation to:

(a) a regulated architectural paint, has the meaning assigned to it by Part 1 of Schedule 1; (L.N. 107 of 2009)

(b) a regulated printing ink, has the meaning assigned to it by Part 1 of Schedule 2;

(c) a regulated consumer product, has the meaning assigned to it by section 2 of Part 2 of Schedule 3 or Part 6 of Schedule 3 (as may be applicable); (L.N. 107 of 2009)

(d) a lithographic heatset web printing machine, has the meaning assigned to it by Schedule 4;

(e) a regulated vehicle refinishing paint, has the meaning assigned to it by Part 1 of Schedule 5; (L.N. 107 of 2009)

(f) a regulated vessel paint or regulated pleasure craft paint, has the meaning assigned to it by Part 1 of Schedule 6; and (L.N. 107 of 2009)

(g) a regulated adhesive or regulated sealant, has the meaning assigned to it by Part 1 of Schedule 7; (L.N. 107 of 2009)

“volatile organic compound content” in relation to:

(a) a regulated architectural paint, means the content of volatile organic compounds as determined under section 9; (L.N. 107 of 2009)

(b) a regulated printing ink, means the content of volatile organic compounds as determined under section 12;

(c) a regulated consumer product, means the content of volatile organic compounds as determined under section 15; (L.N. 107 of 2009)

(d) a lithographic heatset web printing machine, means the content of volatile organic compounds in any waste gas emitting from the machine as determined under section 16; (L.N. 107 of 2009)

(e) a regulated vehicle refinishing paint, means the content of volatile organic compounds as determined under section 16D; (L.N. 107 of 2009)

(f) a regulated vessel paint or regulated pleasure craft paint, means the content of volatile organic compounds as determined under section 16H; and (L.N. 107 of 2009)

(g) a regulated adhesive or regulated sealant, means the content of volatile organic compounds as determined under section 16L. (L.N. 107 of 2009)
(L.N. 107 of 2009)

SECT 2A

Representation as to use VerDate:01/01/2010

(1) A product (“first mentioned product”) is a regulated architectural paint, regulated printing ink, regulated consumer product, regulated vehicle refinishing paint, regulated vessel paint, regulated pleasure craft paint, regulated adhesive or regulated sealant if anywhere on the container of the first mentioned product or in any documentation relating to the first mentioned product supplied by its manufacturer or importer, any representation is made that the first mentioned product may be used as such.

(2) If any representation is made anywhere on the container of a product (“first mentioned product”) or in any documentation relating to the first mentioned product supplied by its manufacturer or importer that the first mentioned product may be used as 2 or more regulated products, the provisions of this Regulation applicable to each of those regulated products apply to the first mentioned product.
(L.N. 107 of 2009)

SECT 3

Prohibition on manufacture and import: regulated architectural paints* VerDate:01/01/2010

PART 2

**PROHIBITIONS AND REQUIREMENTS RELATING TO THE VOLATILE ORGANIC COMPOUND
CONTENT OF REGULATED ARCHITECTURAL PAINTS**
(L.N. 107 of 2009)

(1) On or after 1 January 2008, a person shall not manufacture in Hong Kong or import into Hong Kong a regulated architectural paints that is listed in Part 2 of Schedule 1 and has a volatile organic compound content in excess of the prescribed limit.

(2) On or after 1 January 2009, a person shall not manufacture in Hong Kong or import into Hong Kong a regulated architectural paints that is listed in Part 3 of Schedule 1 and has a volatile organic compound content in excess of the prescribed limit.

(3) On or after 1 January 2010, a person shall not manufacture in Hong Kong or import into Hong Kong a regulated architectural paints that is listed in Part 4 of Schedule 1 and has a volatile organic compound content in excess of the prescribed limit.

(L.N. 107 of 2009)

Note:

* (Amended L.N. 107 of 2009)

SECT 4

Requirement to carry a label during the transitional period: regulated architectural paints*

VerDate:01/01/2010

(1) During the transitional period, a manufacturer or an importer of a regulated architectural paint that has a volatile organic compound content in excess of the prescribed limit shall ensure that a label that complies with section 5 is fixed durably and conspicuouslyâ€” (L.N. 107 of 2009)

(a) on the surface of the packaging of the paint; and

(b) on the surface of the container of the paint. (L.N. 107 of 2009)

(2) In subsection (1), “transitional period” in relation to a regulated architectural paints listed: (L.N. 107 of 2009)

(a) in Part 2 of Schedule 1, means the period beginning on 1 April 2007 and ending on 31 December 2007;

(b) in Part 3 of Schedule 1, means the period beginning on 1 April 2007 and ending on 31 December 2008; and

(c) in Part 4 of Schedule 1, means the period beginning on 1 April 2007 and ending on 31 December 2009.

Note:

* (Amended L.N. 107 of 2009)

SECT 5

Specifications for labels required under section 4: regulated architectural paints* VerDate:01/01/2010

(1) A label for the purposes of section 4 must be in both the English and Chinese languages.

(2) The label for a regulated architectural paint listed in Part 2 of Schedule 1 must contain the following text: (L.N. 107 of 2009)

“The content of volatile organic compounds in this product exceeds the prescribed limit that is to be implemented with effect from 1 January 2008. Volatile organic compounds cause air pollution.”;

(3) The label for a regulated architectural paint listed in Part 3 of Schedule 1 must contain the following text:(L.N. 107 of 2009)

“The content of volatile organic compounds in this product exceeds the prescribed limit that is to be implemented with effect from 1 January 2009. Volatile organic compounds cause air pollution.”;

(4) The label for a regulated architectural paint listed in Part 4 of Schedule 1 must contain the following text: (L.N. 107 of 2009)

“The content of volatile organic compounds in this product exceeds the prescribed limit that is to be implemented with effect from 1 January 2010. Volatile organic compounds cause air pollution.”;

(5) The size of the label must be at least:

(a) 100 mm by 60 mm; or

(b) one-fifth of the area of the largest surface of the packaging or container.

(6) If the label is of the size referred to in subsection (5)(a), the letters of the English text must be at least 3 mm high and the characters of the Chinese text must be at least 5 mm high.

(7) If the label is of the size referred to in subsection (5)(b), the size of the letters of the English text and the characters of the Chinese text must be adjusted in proportion to the size of the letters and characters referred to in subsection (6).

Note:

* (Amended L.N. 107 of 2009)

SECT 6

Requirement for certain information to be displayed: regulated architectural paints* VerDate:01/01/2010

(1) A manufacturer or an importer of a regulated architectural paints shall disclose in the Material Safety Data Sheets, trade catalogues, packaging or containers of any regulated architectural paint manufactured or imported on or after 1 April 2007, the following information: (L.N. 107 of 2009)

(a) the type of regulated architectural paint to which the paint belongs;

(b) the date of its manufacture; and

(c) the volatile organic compound content of the paint in a ready to use condition. (L.N. 107 of 2009)

(2) For the purposes of subsection (1)(c), the volatile organic compound content is to be expressed in grams per litre of coating or material.

(L.N. 107 of 2009)

Note:

* (Amended L.N. 107 of 2009)

SECT 7

Requirement of product notification: regulated architectural paints* VerDate:01/01/2010

(1) If any regulated architectural paint is manufactured or imported on or after 1 April 2007, the manufacturer or importer of the paint shall, prior to the sale or use of the paint in Hong Kong, give the Authority the following information in writing in respect of the paint:

(L.N. 107 of 2009)

- (a) the name of the manufacturer or importer of the paint;
- (b) the type of regulated architectural paint to which the paint belongs;
- (c) the brand and full name of the paint;
- (d) the volume or weight in which the paint is sold;
- (e) when dilution of the paint with solvent or thinner is necessary before application, the brand and full name of the diluent to be used and its specific gravity;
- (f) the volatile organic compound content of any colourant added to the tint base of the paint, expressed in grams per litre of coating or material less water and less exempt compounds; and
- (g) the volatile organic compound content of the paint in a ready to use condition. (L.N. 107 of 2009)

(2) For the purposes of subsection (1)(g), the volatile organic compound content is to be expressed in grams per litre of coating or material.

(3) For the avoidance of doubt, the information referred to in subsection (1) is not required to be given in the case of a change of packaging or product formulation that has no effect on the volatile organic compound content of the regulated architectural paint.

(L.N. 107 of 2009)

Note:

* (Amended L.N. 107 of 2009)

SECT 8

Requirement to submit a report: regulated architectural paints* VerDate:01/01/2010

(1) Subject to subsection (2), a manufacturer or an importer of a regulated architectural paint shall submit to the Authority on or before 31 March of each year a report for the period from 1 January to 31 December of the previous year. (L.N. 107 of 2009)

(2) A manufacturer or an importer of a regulated architectural paints shall submit to the Authority the first report under this section, in the case of a regulated architectural paint: (L.N. 107 of 2009)

- (a) listed in Part 2 of Schedule 1, on or before 31 March 2009;
- (b) listed in Part 3 of Schedule 1, on or before 31 March 2010; and
- (c) listed in Part 4 of Schedule 1, on or before 31 March 2011.

(3) A report under this section must be in writing and contain the following information in relation to each regulated architectural paint that is manufactured or imported by the manufacturer or importer on or after the effective date, and is sold by the manufacturer or importer in Hong Kong or applied in Hong Kong for the manufacturer's or importer's own use during the period to which the report relates:

- (a) the name of the manufacturer or importer of the paint;
- (b) the type of regulated architectural paint to which the manufactured or imported paint belongs;
- (c) the brand and full name of the paint;
- (d) the volume or weight in which the paint is sold; and

(e) the total volume or weight, excluding packaging and container, of the paint as sold by the manufacturer or importer in Hong Kong, or as applied in Hong Kong for the manufacturer's or importer's own use. (L.N. 107 of 2009)

(4) For the purposes of subsection (3), “effective date” , in relation to a regulated architectural paint:

- (a) listed in Part 2 of Schedule 1, means 1 January 2008;
- (b) listed in Part 3 of Schedule 1, means 1 January 2009;
- (c) listed in Part 4 of Schedule 1, means 1 January 2010. (L.N. 107 of 2009)

Note:

* (Amended L.N. 107 of 2009)

SECT 9

Determination of volatile organic compound content: regulated architectural paints* VerDate:01/01/2010

(1) For the purposes of this Regulation, the volatile organic compound content of a regulated architectural paint must be determined in accordance with the test method specified in Part 5 of Schedule 1. (L.N. 107 of 2009)

(2) The Authority may permit any test method to be adopted as an alternative to the test method referred to in subsection (1).

(3) The Authority shall, after giving the permission under subsection (2), publish a notice which is accessible through the internet.

Note:

* (Amended L.N. 107 of 2009)

SECT 10

Prohibition on manufacture and import: regulated printing inks VerDate:01/04/2007

PART 3

PROHIBITIONS AND REQUIREMENTS RELATING TO THE VOLATILE ORGANIC COMPOUND CONTENT OF REGULATED PRINTING INKS

(1) On or after 1 April 2007, a person shall not manufacture in Hong Kong or import into Hong Kong a regulated printing ink that is listed in Part 2 of Schedule 2 and has a volatile organic compound content in excess of the prescribed limit.

(2) On or after 1 January 2009, a person shall not manufacture in Hong Kong or import into Hong Kong a regulated printing ink that is listed in Part 3 of Schedule 2 and has a volatile organic compound content in excess of the prescribed limit.

SECT 11

Requirement to submit a report: regulated printing inks VerDate:01/01/2010

(1) Subject to subsections (2) and (3), a manufacturer or an importer of a regulated printing ink shall submit to the Authority on or before 31 March of each year a report for the period from 1 January to 31 December of the previous year.

(2) A manufacturer or an importer of a regulated printing ink shall submit to the Authority the first report under this section, in the case of a regulated printing ink:

(a) listed in Part 2 of Schedule 2, on or before 31 March 2008; and

(b) listed in Part 3 of Schedule 2, on or before 31 March 2010.

(3) The period for which a report is required to be submitted under subsection (2)(a) is 1 April 2007 to 31 December 2007.

(4) A report under this section must be in writing and contain the following information in relation to each regulated printing ink that is manufactured or imported by the manufacturer or importer on or after the effective date, and is sold by the manufacturer or importer in Hong Kong or applied in Hong Kong for the manufacturer's or importer's own use during the period to which the report relates:

(a) the name of the manufacturer or importer of the ink;

(b) the type of regulated printing ink to which the manufactured or imported ink belongs;

- (c) the brand and full name of the ink;
 - (d) the volume or weight in which the ink is sold; and
 - (e) the total volume or weight, excluding packaging and container, of the ink as sold by the manufacturer or importer in Hong Kong, or as applied in Hong Kong for the manufacturer's or importer's own use. (L.N. 107 of 2009)
- (5) For the purposes of subsection (4), “effective date” in relation to a regulated printing ink:
- (a) listed in Part 2 of Schedule 2, means 1 April 2007;
 - (b) listed in Part 3 of Schedule 2, means 1 January 2009. (L.N. 107 of 2009)

SECT 12

Determination of volatile organic compound content: regulated printing inks VerDate:01/04/2007

- (1) For the purposes of this Regulation, the volatile organic compound content of a regulated printing ink, except a gravure ink, must be determined in accordance with the test method specified in section 1 of Part 4 of Schedule 2.
- (2) The volatile organic compound content of a gravure ink must be determined in accordance with the test method specified in section 2 of Part 4 of Schedule 2.
- (3) The Authority may permit any test method to be adopted as an alternative to the test method referred to in subsection (1) or (2).
- (4) The Authority shall, after giving the permission under subsection (3), publish a notice which is accessible through the internet.

SECT 13

Prohibition on manufacture and import: regulated consumer products VerDate:01/04/2007

PART 4

PROHIBITIONS AND REQUIREMENTS RELATING TO THE VOLATILE ORGANIC COMPOUND CONTENT OF REGULATED CONSUMER PRODUCTS

- (1) During the period beginning on 1 April 2007 and ending on 31 December 2008, a person shall not manufacture in Hong Kong or import into Hong Kong, a regulated consumer product that is listed in Part 2 of Schedule 3 and has a volatile organic compound content in excess of the prescribed limit.
- (2) On or after 1 January 2008, a person shall not manufacture in Hong Kong or import into Hong Kong a regulated consumer product that is listed in Part 3 of Schedule 3 and has a volatile organic compound content in excess of the prescribed limit.

(3) On or after 1 January 2009, a person shall not manufacture in Hong Kong or import into Hong Kong a regulated consumer product that is listed in Part 4 of Schedule 3 and has a volatile organic compound content in excess of the prescribed limit.

SECT 14

Requirement to submit a report: regulated consumer products VerDate:01/01/2010

(1) Subject to subsections (2) and (3), a manufacturer or an importer of a regulated consumer product shall submit to the Authority on or before 31 March of each year a report for the period from 1 January to 31 December of the previous year.

(2) A manufacturer or an importer of a regulated consumer product shall submit to the Authority the first report under this section, in the case of a regulated consumer product:

- (a) listed in Part 2 of Schedule 3, on or before 31 March 2008;
- (b) listed in Part 3 of Schedule 3, on or before 31 March 2009; and
- (c) listed in Part 4 of Schedule 3, on or before 31 March 2010.

(3) The period for which a report is required to be submitted under subsection (2)(a) is 1 April 2007 to 31 December 2007.

(4) A report under this section must be in writing and contain the following information in relation to each regulated consumer product that is manufactured or imported by the manufacturer or importer at a relevant time, and is sold by the manufacturer or importer in Hong Kong or applied in Hong Kong for the manufacturer's or importer's own use during the period to which the report relates:

- (a) the name of the manufacturer or importer of the consumer product;
- (b) the type of regulated consumer product to which the manufactured or imported consumer product belongs;
- (c) the brand and full name of the consumer product;
- (d) the volume or weight in which the consumer product is sold; and
- (e) the total volume or weight, excluding packaging and container, of the consumer product as sold by the manufacturer or importer in Hong Kong, or as applied in Hong Kong for the manufacturer's or importer's own use. (L.N. 107 of 2009)

(5) For the purposes of subsection (4), "relevant time" in relation to a regulated consumer product:

- (a) listed in Part 2 of Schedule 3, means any time during the period beginning on 1 April 2007 and ending on 31 December 2008;
- (b) listed in Part 3 of Schedule 3, means any time on or after 1 January 2008;
- (c) listed in Part 4 of Schedule 3, means any time on or after 1

January 2009. (L.N. 107 of 2009)

SECT 15

Determination of volatile organic compound content: regulated consumer products VerDate:01/04/2007

- (1) For the purposes of this Regulation, the volatile organic compound content of a regulated consumer product must be determined in accordance with the test methods specified in Part 7 of Schedule 3.
- (2) The Authority may permit any test method to be adopted as an alternative to the test method referred to in subsection (1).
- (3) The Authority shall, after giving the permission under subsection (2), publish a notice which is accessible through the internet.

SECT 16

Limits on volatile organic compound emissions from lithographic heatset web printing machines
VerDate:01/04/2007

PART 5

REQUIREMENT TO CONTROL VOLATILE ORGANIC COMPOUND EMISSIONS FROM LITHOGRAPHIC HEATSET WEB PRINTING MACHINES

- (1) On and after 1 January 2009, an owner of a lithographic heatset web printing machine shall install on the machine an emission control device with an emission limit on volatile organic compounds of no more than 100 mg Carbon/m³ on the waste gases, without dilution, at reference conditions of 0°C and 101.325 kilopascals.
- (2) The owner shall ensure that the emission control device referred to in subsection (1) has been:
 - (a) certified by a competent person using Method 18, "Measurement of Gaseous Organic Compound Emissions by Gas Chromatography" as adopted by US EPA that he has complied with the requirement specified in subsection (1);
 - (b) re-certified by a competent person within 24 months from the previous certification; and
 - (c) designed and operated to capture and control the emission of volatile organic compounds from all printing work of the machine.
- (3) The owner shall display the latest certificate certified by a competent person referred to in subsection (2) at a conspicuous place on the machine.

(4) If the owner receives a notice in writing from the Authority that the Authority is not satisfied with the result of any certification, the owner shall ensure that a re-certification is carried out within the period specified by the Authority in the notice.

(5) In this section, “competent person” means a registered professional engineer in the building services, gas, chemical, environmental, marine and naval architecture or mechanical discipline under the Engineers Registration Ordinance (Cap 409).

SECT 16A

Prohibition on manufacture and import: regulated vehicle refinishing paints VerDate:01/01/2010

PART 5A

PROHIBITIONS AND REQUIREMENTS RELATING TO THE VOLATILE ORGANIC COMPOUND CONTENT OF REGULATED VEHICLE REFINISHING PAINTS

On or after 1 October 2011, a person must not manufacture in Hong Kong or import into Hong Kong a regulated vehicle refinishing paint that has a volatile organic compound content in excess of the prescribed limit.

(L.N. 192 of 2009)

(Part 5A added L.N. 107 of 2009)

SECT 16B

Requirement for certain information to be displayed: regulated vehicle refinishing paints

VerDate:01/01/2010

(1) A manufacturer or an importer of a regulated vehicle refinishing paint must disclose in the Material Safety Data Sheets, trade catalogues, packaging or containers of any regulated vehicle refinishing paint manufactured or imported on or after 1 October 2011, the following information:

(L.N. 192 of 2009)

- (a) the type of regulated vehicle refinishing paint to which the paint belongs;
- (b) the date of its manufacture;
- (c) the density or specific gravity in which the paint is sold;
- (d) the volatile organic compound content of the paint in a ready to use condition; and (L.N. 192 of 2009)
- (e) (Repealed L.N. 192 of 2009)
- (f) the manufacturer's recommendation on dilution with solvent or thinner, and mixing of components, and the recommended dilution and mixing ratios.

(2) For the purposes of subsection (1)(d), the volatile organic compound content is to be expressed in grams per litre of coating.(Part 5A added L.N. 107 of 2009)

SECT 16C

Requirement to submit a report: regulated vehicle refinishing paints VerDate:01/01/2010

(1) Subject to subsections (2) and (3), a manufacturer or an importer of a regulated vehicle refinishing paint must submit to the Authority on or before 31 March of each year a report for the period from 1 January to 31 December of the previous year.

(2) A manufacturer or an importer of a regulated vehicle refinishing paint must submit to the Authority the first report under this section on or before 31 March 2012.

(3) The period for which a report is required to be submitted under subsection (2) is 1 October 2011 to 31 December 2011.

(4) A report under this section must be in writing and contain the following information in relation to each regulated vehicle refinishing paint that is manufactured or imported by the manufacturer or importer on or after 1 October 2011, and is sold by the manufacturer or importer in Hong Kong or applied in Hong Kong for the manufacturer's or importer's own use during the period to which the report relates: (L.N. 192 of 2009)

- (a) the name of the manufacturer or importer of the paint;
- (b) the type of regulated vehicle refinishing paint to which the manufactured or imported paint belongs;
- (c) the brand and full name of the paint;
- (d) the volume or weight in which the paint is sold;
- (e) the density or specific gravity in which the paint is sold;
- (f) the volatile organic compound content of the paint:
 - (i) in a ready to use condition; and
 - (ii) in a ready to use condition that is determined with the volume of water taken to be zero; and
- (g) the total volume or weight, excluding packaging and container, of the paint as sold by the manufacturer or importer in Hong Kong, or as applied in Hong Kong for the manufacturer's or importer's own use.

(5) For the purposes of subsection (4)(f), the volatile organic compound content is to be expressed in grams per litre of coating.(L.N. 192 of 2009)
(Part 5A added L.N. 107 of 2009)

SECT 16D

Determination of volatile organic compound content: regulated vehicle refinishing paints

VerDate:01/01/2010

(1) For the purposes of this Regulation, the volatile organic compound content of a regulated vehicle refinishing paint must be determined in accordance with the test method specified in Part 3 of Schedule 5.

(2) The Authority may permit any test method to be adopted as an alternative to the test method referred to in subsection (1).

(3) The Authority must, after giving the permission under subsection (2), publish a notice which is accessible through the internet.(Part 5A added L.N. 107 of 2009)

SECT 16E

Prohibition on manufacture and import: regulated vessel paints and regulated pleasure craft paints

VerDate:01/01/2010

PART 5B

PROHIBITIONS AND REQUIREMENTS RELATING TO THE VOLATILE ORGANIC COMPOUND CONTENT OF REGULATED VESSEL PAINTS AND REGULATED PLEASURE CRAFT PAINTS

(1) On or after 1 January 2010, a person must not manufacture in Hong Kong or import into Hong Kong a regulated vessel paint that is listed in Part 2 of Schedule 6 and has a volatile organic compound content in excess of the prescribed limit.

(2) On or after 1 April 2012, a person must not manufacture in Hong Kong or import into Hong Kong a regulated vessel paint that is listed in Part 3 of Schedule 6 and has a volatile organic compound content in excess of the prescribed limit.

(3) On or after 1 January 2011, a person must not manufacture in Hong Kong or import into Hong Kong a regulated pleasure craft paint that is listed in Part 4 of Schedule 6 and has a volatile organic compound content in excess of the prescribed limit.

(4) On or after 1 April 2012, a person must not manufacture in Hong Kong or import into Hong Kong a regulated pleasure craft paint that is listed in Part 5 of Schedule 6 and has a volatile organic compound content in excess of the prescribed limit.
(Part 5B added L.N. 107 of 2009)

SECT 16F

Requirement for certain information to be displayed: regulated vessel paints and regulated pleasure craft paints VerDate:01/01/2010

(1) A manufacturer or an importer of a regulated vessel paint must disclose the information specified in subsection (3) in the Material Safety Data Sheets, trade catalogues, packaging or containers of any regulated vessel paint manufactured or imported, in the case of a regulated vessel paint:

(a) listed in Part 2 of Schedule 6, on or after 1 January 2010; and

(b) listed in Part 3 of Schedule 6, on or after 1 April 2012.

(2) A manufacturer or an importer of a regulated pleasure craft paint must disclose the information specified in subsection (3) in the Material Safety Data Sheets, trade catalogues, packaging or containers of any regulated pleasure craft paint manufactured or imported, in the case of a regulated pleasure craft paint:

- (a) listed in Part 4 of Schedule 6, on or after 1 January 2011; and
- (b) listed in Part 5 of Schedule 6, on or after 1 April 2012.

(3) The information specified for the purposes of subsections (1) and (2) is:

(a) the type of regulated vessel paint or regulated pleasure craft paint to which the regulated vessel paint or regulated pleasure craft paint belongs;

(b) the date of its manufacture;

(c) the density or specific gravity in which the regulated vessel paint or regulated pleasure craft paint is sold;

(d) the volatile organic compound content of the regulated vessel paint or regulated pleasure craft paint in a ready to use condition;

(e) if a compound that belongs to a chemical group of exempt compounds has been added as a product ingredient in manufacturing the regulated vessel paint or regulated pleasure craft paint and the weight of the added compound has been included in the weight of exempt compounds in determining the volatile organic compound content of the paint, the name of the added compound; and

(f) the manufacturer's recommendation on dilution with solvent or thinner, and mixing of components, and the recommended dilution and mixing ratios.

(4) For the purposes of subsection (3)(d), the volatile organic compound content is to be expressed in grams per litre of coating. (Part 5B added L.N. 107 of 2009)

SECT 16G

Requirement to submit a report: regulated vessel paints and regulated pleasure craft paints

VerDate:01/01/2010

(1) Subject to subsections (3) and (5), a manufacturer or an importer of a regulated vessel paint must submit to the Authority on or before 31 March of each year a report for the period from 1 January to 31 December of the previous year.

(2) Subject to subsections (4) and (5), a manufacturer or an importer of a regulated pleasure craft paint must submit to the Authority on or before 31 March of each year a report for the period from 1 January to 31 December of the previous year.

(3) A manufacturer or an importer of a regulated vessel paint must submit to the Authority the first report under this section, in the case of a regulated vessel paint:

- (a) listed in Part 2 of Schedule 6, on or before 31 March 2011; and

- (b) listed in Part 3 of Schedule 6, on or before 31 March 2013.
- (4) A manufacturer or an importer of a regulated pleasure craft paint must submit to the Authority the first report under this section, in the case of a regulated pleasure craft paint:
- (a) listed in Part 4 of Schedule 6, on or before 31 March 2012; and
 - (b) listed in Part 5 of Schedule 6, on or before 31 March 2013.
- (5) The period for which a report is required to be submitted under subsections (3)(b) and (4)(b) is 1 April 2012 to 31 December 2012.
- (6) A report under this section must be in writing and contain the following information in relation to each regulated vessel paint or regulated pleasure craft paint that is manufactured or imported by the manufacturer or importer on or after the effective date, and is sold by the manufacturer or importer in Hong Kong or applied in Hong Kong for the manufacturer's or importer's own use during the period to which the report relates:
- (a) the name of the manufacturer or importer of the paint;
 - (b) the type of regulated vessel paint or regulated pleasure craft paint to which the manufactured or imported paint belongs;
 - (c) the brand and full name of the paint;
 - (d) the volume or weight in which the paint is sold;
 - (e) the density or specific gravity in which the paint is sold;
 - (f) the volatile organic compound content of the paint:
 - (i) in a ready to use condition; and
 - (ii) in a ready to use condition that is determined with the volume of water and volume of exempt compounds taken to be zero; and
 - (g) the total volume or weight, excluding packaging and container, of the paint as sold by the manufacturer or importer in Hong Kong, or as applied in Hong Kong for the manufacturer's or importer's own use.
- (7) For the purposes of subsection (6), “effective date” in relation to:
- (a) a regulated vessel paint:
 - (i) listed in Part 2 of Schedule 6, means 1 January 2010;
 - (ii) listed in Part 3 of Schedule 6, means 1 April 2012;
 - (b) a regulated pleasure craft paint:
 - (i) listed in Part 4 of Schedule 6, means 1 January 2011;
 - (ii) listed in Part 5 of Schedule 6, means 1 April 2012.
- (8) For the purposes of subsection (6)(f), the volatile organic compound content is to be expressed in grams per litre of coating.(Part 5B added L.N. 107 of 2009)

SECT 16H

Determination of volatile organic compound content: regulated vessel paints and regulated pleasure craft paints VerDate:01/01/2010

- (1) For the purposes of this Regulation, the volatile organic compound content of a regulated vessel paint and regulated pleasure craft paint must be determined in accordance with the test method specified in Part 6 of Schedule 6.
- (2) The Authority may permit any test method to be adopted as an alternative to the test method referred to in subsection (1).
- (3) The Authority must, after giving the permission under subsection (2), publish a notice which is accessible through the internet.
(Part 5B added L.N. 107 of 2009)

SECT 16I

Prohibition on manufacture and import: regulated adhesives and regulated sealants VerDate:01/01/2010

PART 5C

PROHIBITIONS AND REQUIREMENTS RELATING TO THE VOLATILE ORGANIC COMPOUND CONTENT OF REGULATED ADHESIVES AND REGULATED SEALANTS

- (1) During the period beginning on 1 January 2010 and ending on 31 March 2012, a person must not manufacture in Hong Kong or import into Hong Kong a regulated adhesive that is listed in Part 2 of Schedule 7 and has a volatile organic compound content in excess of the prescribed limit.
- (2) On or after 1 January 2010, a person must not manufacture in Hong Kong or import into Hong Kong a regulated adhesive that is listed in Part 3 of Schedule 7 and has a volatile organic compound content in excess of the prescribed limit.
- (3) On or after 1 April 2012, a person must not manufacture in Hong Kong or import into Hong Kong a regulated adhesive that is listed in Part 4 of Schedule 7 and has a volatile organic compound content in excess of the prescribed limit.
- (4) On or after 1 January 2010, a person must not manufacture in Hong Kong or import into Hong Kong a regulated sealant that has a volatile organic compound content in excess of the prescribed limit.
(Part 5C added L.N. 107 of 2009)

SECT 16J

Requirement for certain information to be displayed: regulated adhesives and regulated sealants VerDate:01/01/2010

- (1) A manufacturer or an importer of a regulated adhesive must disclose the information specified in subsection (3) in the Material Safety Data Sheets, trade catalogues, packaging or containers of any regulated adhesive manufactured or imported on or after 1 January 2010.

(2) A manufacturer or an importer of a regulated sealant must disclose the information specified in subsection (3) in the Material Safety Data Sheets, trade catalogues, packaging or containers of any regulated sealant manufactured or imported on or after 1 January 2010.

(3) The information specified for the purposes of subsections (1) and (2) is:

(a) the type of regulated adhesive or regulated sealant to which the regulated adhesive or regulated sealant belongs;

(b) the date of its manufacture;

(c) the density or specific gravity in which the regulated adhesive or regulated sealant is sold;

(d) the volatile organic compound content of the regulated adhesive or regulated sealant in a ready to use condition;

(e) if the regulated adhesive or regulated sealant contains any reactive diluent and the presence of the diluent has been taken into account in determining the volatile organic compound content of the adhesive or sealant, the curing procedure;

(f) if a compound that belongs to a chemical group of exempt compounds has been added as a product ingredient in manufacturing the regulated adhesive or regulated sealant and the weight of the added compound has been included in the weight of exempt compounds in determining the volatile organic compound content of the adhesive or sealant, the name of the added compound; and

(g) the manufacturer's recommendation on dilution with solvent or thinner, and mixing of components, and the recommended dilution and mixing ratios.

(4) For the purposes of subsection (3)(d), the volatile organic compound content is to be expressed:

(a) in relation to a portable sealant or caulking compound, in per cent by weight; and

(b) in relation to a regulated adhesive and any other regulated sealants, in grams per litre of adhesive or sealant.

(Part 5C added L.N. 107 of 2009)

SECT 16K

Requirement to submit a report: regulated adhesives and regulated sealants VerDate:01/01/2010

(1) Subject to subsection (3), a manufacturer or an importer of a regulated adhesive must submit to the Authority on or before 31 March of each year a report for the period from 1 January to 31 December of the previous year.

(2) Subject to subsection (4), a manufacturer or an importer of a regulated sealant must submit to the Authority on or before 31 March of each year a report for the period from 1 January to 31 December of the previous year.

(3) A manufacturer or an importer of a regulated adhesive must submit to the Authority the first report under this section on or before 31 March 2011.

(4) A manufacturer or an importer of a regulated sealant must submit to the Authority the first report under this section on or before 31 March 2011.

(5) A report under this section must be in writing and contain the following information in relation to each regulated adhesive or regulated sealant that is manufactured or imported by the manufacturer or importer on or after 1 January 2010, and is sold by the manufacturer or importer in Hong Kong or applied in Hong Kong for the manufacturer's or importer's own use during the period to which the report relates:

- (a) the name of the manufacturer or importer of the adhesive or sealant;
- (b) the type of regulated adhesive or regulated sealant to which the manufactured or imported adhesive or sealant belongs;
- (c) the brand and full name of the adhesive or sealant;
- (d) the volume or weight in which the adhesive or sealant is sold;
- (e) the density or specific gravity in which the adhesive or sealant is sold;
- (f) except for a portable sealant or caulking compound, the volatile organic compound content of the adhesive or sealant:
 - (i) in a ready to use condition; and
 - (ii) in a ready to use condition that is determined with the volume of water and volume of exempt compounds taken to be zero;
- (g) for a portable sealant or caulking compound, the volatile organic compound content of the portable sealant or caulking compound in a ready to use condition; and
- (h) the total volume or weight, excluding packaging and container, of the adhesive or sealant as sold by the manufacturer or importer in Hong Kong, or as applied in Hong Kong for the manufacturer's or importer's own use.

(6) For the purposes of subsection (5)(f), the volatile organic compound content is to be expressed in grams per litre of adhesive or sealant.

(7) For the purposes of subsection (5)(g), the volatile organic compound content is to be expressed in per cent by weight.
(Part 5C added L.N. 107 of 2009)

SECT 16L

Determination of volatile organic compound content: regulated adhesives and regulated sealants
VerDate:01/01/2010

- (1) For the purposes of this Regulation and subject to subsection
- (2), the volatile organic compound content of a regulated adhesive and regulated sealant must be determined in accordance with the test methods specified in Part 6 of Schedule 7.
- (2) The volatile organic compound content of a portable sealant or caulking compound must be determined in accordance with the test methods specified in Part 7 of Schedule 3.

(3) The Authority may permit any test method to be adopted as an alternative to the test methods referred to in subsections (1) and (2).

(4) The Authority must, after giving the permission under subsection (3), publish a notice which is accessible through the internet.

(Part 5C added L.N. 107 of 2009)

SECT 17

Offences and penalties VerDate:01/01/2010

PART 6

OFFENCES, DEFENCES AND RELATED MATTERS: ALL REGULATED PRODUCTS

(1) A person who contravenes section 3(1), (2) or (3) commits an offence and is liable on conviction to a fine of \$200000 and to imprisonment for 6 months.

(2) A person who fails to comply with section 4 commits an offence and is liable on conviction to a fine at level 6 and to imprisonment for 3 months.

(3) A person who fails to comply with section 6 commits an offence and is liable on conviction to a fine at level 5 and to imprisonment for 3 months.

(4) A person who fails to comply with section 7 commits an offence and is liable on conviction to a fine at level 5 and to imprisonment for 3 months.

(5) A person who fails to comply with section 8 commits an offence and is liable on conviction to a fine at level 5 and to imprisonment for 3 months.

(6) A person who contravenes section 10(1) or (2) commits an offence and is liable on conviction to a fine of \$200000 and to imprisonment for 6 months.

(7) A person who fails to comply with section 11 commits an offence and is liable on conviction to a fine at level 5 and to imprisonment for 3 months.

(8) A person who contravenes section 13(1), (2) or (3) commits an offence and is liable on conviction to a fine of \$200000 and to imprisonment for 6 months.

(9) A person who fails to comply with section 14 commits an offence and is liable on conviction to a fine at level 5 and to imprisonment for 3 months.

(10) A person who fails to comply with section 16(1), (2) or (4) commits an offence and is liable on conviction to a fine of \$200000 and to imprisonment for 6 months.

(11) A person who fails to comply with section 16(3) commits an offence and is liable on conviction to a fine at level 5.

(11A) A person who contravenes section 16A commits an offence and is liable on conviction to a fine of \$200000 and to imprisonment for 6 months. (L.N. 107 of 2009)

(11B) A person who fails to comply with section 16B commits an offence and is liable on conviction to a fine at level 5 and to imprisonment for 3 months. (L.N. 107 of 2009)

(11C) A person who fails to comply with section 16C commits an offence and is liable on conviction to a fine at level 5 and to imprisonment for 3 months. (L.N. 107 of 2009)

(11D) A person who contravenes section 16E(1), (2), (3) or (4) commits an offence and is liable on conviction to a fine of \$200000 and to imprisonment for 6 months. (L.N. 107 of 2009)

(11E) A person who fails to comply with section 16F commits an offence and is liable on conviction to a fine at level 5 and to imprisonment for 3 months. (L.N. 107 of 2009)

(11F) A person who fails to comply with section 16G commits an offence and is liable on conviction to a fine at level 5 and to imprisonment for 3 months. (L.N. 107 of 2009)

(11G) A person who contravenes section 16I(1), (2), (3) or (4) commits an offence and is liable on conviction to a fine of \$200000 and to imprisonment for 6 months. (L.N. 107 of 2009)

(11H) A person who fails to comply with section 16J commits an offence and is liable on conviction to a fine at level 5 and to imprisonment for 3 months. (L.N. 107 of 2009)

(11I) A person who fails to comply with section 16K commits an offence and is liable on conviction to a fine at level 5 and to imprisonment for 3 months. (L.N. 107 of 2009)

(12) A person who fails to comply with section 22(1) or (2) commits an offence and is liable on conviction to a fine at level 5 and to imprisonment for 3 months.

(13) A person who without reasonable excuse fails to comply with a requirement under section 22(3) commits an offence and is liable on conviction to a fine at level 5 and to imprisonment for 3 months.

(14) A person who, for any purpose of this Regulation knowingly or recklessly, displays, gives, reports or records any information that is misleading, false or incomplete in a material particular, commits an offence and is liable on conviction to a fine at level 5 and to imprisonment for 3 months. (L.N. 107 of 2009)

SECT 18

Defences VerDate:01/04/2007

(1) In any proceedings against a person for an offence under this Regulation, it is a defence for that person to prove that he took all reasonable steps and exercised all due diligence to avoid committing the offence.

(2) Where in any proceedings, the defence under subsection (1) involves an allegation that the commission of the offence was due:

- (a) to the act or default of another person; or
 - (b) to reliance on information given by another, the person charged is not, without the leave of the court, entitled to rely on the defence unless he has served a notice in accordance with subsection (3).
- (3) A notice for the purposes of subsection (2) must:
- (a) give information that is in the possession of the person serving the notice at the time he serves the notice, identifying or assisting in the identification of the person who committed the act or default or gave the information referred to in subsection (2)(b); and
 - (b) be served on the person bringing the proceedings at least 7 clear working days before the hearing of the proceedings.
- (4) A person is not entitled to rely on the defence under subsection (2)(b) by reason of his reliance on information given by another person, unless he shows that it was reasonable in all the circumstances for him to have relied on the information, having regard in particular:
- (a) to the steps which he had taken, and those which might reasonably have been taken, for the purpose of verifying the information; and
 - (b) to whether he had any reason to disbelieve the information.

SECT 19

Presumptions: date of manufacture or importation of regulated products; regulated products not in transit etc. VerDate:01/01/2010

- (1) In a prosecution for an offence under section 17 for the contravention of a prohibition under section 3, 10, 13, 16A, 16E or 16I or non-compliance with a requirement under section 4, 6, 7, 16B, 16F or 16J, a regulated product that is proved to have been manufactured or imported by a person is presumed, in the absence of evidence to the contrary, to be a regulated product manufactured or imported by that person on or after the relevant date. (L.N. 107 of 2009)
- (2) In a prosecution for an offence under this Regulation, a regulated product that is found in Hong Kong is presumed, in the absence of evidence to the contrary, to be a regulated product that is not:
- (a) goods in transit;
 - (b) goods in the course of transshipment; or
 - (c) goods that are solely for export or re-export.
- (3) In subsection (1), “relevant date: in relation to a regulated product, means:
- (a) in the case of a prohibition, the date with effect from which the manufacture or importation of the regulated product having a volatile organic compound content in excess of the prescribed limit for that product is prohibited; and

(b) in the case of a requirement, the date with effect from which the relevant requirement has to be complied with.

SECT 20

Regulation does not apply to goods in transit etc. VerDate:01/04/2007

PART 7

GENERAL PROVISIONS: ALL REGULATED PRODUCTS

This Regulation does not apply to a regulated product that:

- (a) is goods in transit;
- (b) is in the course of transshipment; or
- (c) is solely for export or re-export.

SECT 21

Exemption by the Authority VerDate:01/04/2007

(1) The Authority may exempt in writing any regulated product from all or any of the provisions of this Regulation if he considers that:

- (a) the regulated product is irreplaceable in serving a vital public health or security function;
- (b) the exemption would be in the public interest; or
- (c) the regulated product is manufactured or imported as a trade sample and is not intended for sale in Hong Kong.

(2) The Authority may impose any conditions on an exemption under subsection (1).

SECT 22

Requirement to keep records etc. VerDate:01/04/2007

(1) A manufacturer or an importer of a regulated product shall keep records and documents containing the particulars of the regulated product manufactured or imported by him.

(2) The manufacturer or importer of a regulated product shall retain any record or document kept under subsection (1) for a period of not less than 3 years after it is made.

(3) The Authority may require the manufacturer or importer to produce any record or document kept by him under this section for inspection.

SCHEDULE 1
REGULATED ARCHITECTURAL PAINTS* VerDate:01/01/2010

[sections 2, 3, 4,
5, 8 & 9]

PART 1

DEFINITIONS

In this Schedule, unless the context otherwise requires:

“aluminium roof coatings” means roof coatings containing at least 84 grams of elemental aluminium pigment per litre of coating when in a ready to use condition;

“appurtenances” means accessories to a stationary structure, including but not limited to hand railings, cabinets, bathroom and kitchen fixtures, fences, rain-gutters and down-spouts, window screens, lamp-posts, heating and air conditioning equipment, other mechanical equipment, large fixed stationary tools, signs, motion picture and television production sets, and concrete forms;

“architectural coatings” means any coatings that are applied to stationary structures and their appurtenances, to pavements or to kerbs;

“below-ground wood preservatives” means wood preservatives that are formulated for architectural use to protect below-ground wood;

“bituminous coating materials” means black or brownish coating materials, soluble in carbon disulphide, consisting mainly of hydrocarbons and are obtained from natural deposits, or as residues from the distillation of crude petroleum oils or of low grades of coal;

“bond breakers” means coatings that are formulated for or applied between layers of concrete to prevent the freshly poured top layer of concrete from bonding to the substrate over which it is poured;

“clear brushing lacquers” means clear wood finishes that:

(a) are formulated with nitrocellulose or synthetic resins to dry by solvent evaporation without chemical reaction and to provide a solid protective film; and

(b) are intended exclusively for application by brush, but does not include clear lacquer sanding sealers;

“clear wood finishes” means clear and semi-transparent architectural coatings, including lacquers and varnishes, that are applied to wood substrates to provide a transparent or translucent solid film;

“concrete-curing compounds” means coatings that are formulated for or applied to freshly poured concrete to retard the evaporation of water;

“dry-fog coatings” means architectural coatings that are formulated only for spray application so that when sprayed, overspray droplets dry before falling on floors and other surfaces;

“exempt compound” means any of the following compounds:

- (a) acetone;
- (b) 1-chloro-1,1-difluoroethane (HCFC-142b);
- (c) chlorodifluoromethane (HCFC-22);
- (d) 1-chloro-1-fluoroethane (HCFC-151a);
- (e) chlorofluoromethane (HCFC-31);
- (f) chloropentafluoroethane (CFC-115);
- (g) 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124);
- (h) cyclic, branched, or linear, completely fluorinated alkanes;
- (i) cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;
- (j) cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations;
- (k) cyclic, branched, or linear, completely methylated siloxanes (VMS);
- (l) 1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC-43-10mee);
- (m) dichlorodifluoromethane (CFC-12);
- (n) 1,1-dichloro-1-fluoroethane (HCFC-141b);
- (o) 3,3-dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca);
- (p) 1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb);
- (q) 1,2-dichloro-1,1,2,2-tetrafluoroethane (CFC-114);
- (r) 2,2-dichloro-1,1,1-trifluoroethane (HCFC-123);
- (s) 1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a);
- (t) 1,1-difluoroethane (HFC-152a);
- (u) difluoromethane (HFC-32);
- (v) 2-(difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane ((CF₃)₂CF₂CF₂OCH₃);
- (w) ethane;

- (x) 2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane ((CF₃)₂CF₂OC₂H₅);
- (y) 1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane (C₄F₉OC₂H₅);
- (z) ethylfluoride (HFC-161);
- (za) 1,1,1,2,3,3-hexafluoropropane (HFC-236ea);
- (zb) 1,1,1,3,3,3-hexafluoropropane (HFC-236fa);
- (zc) methyl acetate;
- (zd) methylene chloride (dichloromethane);
- (ze) 1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butane (C₄F₉OCH₃);
- (zf) parachlorobenzotrifluoride (PCBTF);
- (zg) 1,1,1,3,3-pentafluorobutane (HFC-365mfc);
- (zh) pentafluoroethane (HFC-125);
- (zi) 1,1,2,2,3-pentafluoropropane (HFC-245ca);
- (zj) 1,1,2,3,3-pentafluoropropane (HFC-245ea);
- (zk) 1,1,1,2,3-pentafluoropropane (HFC-245eb);
- (zl) 1,1,1,3,3-pentafluoropropane (HFC-245fa);
- (zm) perchloroethylene (tetrachloroethylene);
- (zn) sulphur-containing perfluorocarbons with no unsaturations and with sulphur bonds only to carbon and fluorine;
- (zo) 1,1,2,2-tetrafluoroethane (HFC-134);
- (zp) 1,1,1,2-tetrafluoroethane (HFC-134a);
- (zq) 1,1,1-trichloroethane (methyl chloroform);
- (zr) trichlorofluoromethane (CFC-11);
- (zs) 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113);
- (zt) 1,1,1-trifluoroethane (HFC-143a);
- (zu) trifluoromethane (HFC-23);

“extreme high-gloss coatings for metal” means architectural coatings for metal parts and products that, when tested by ASTM D523, show a reflectance of 75 or more on a 60-degree meter;

“fire-proofing exterior coatings” means opaque architectural coatings that are formulated to protect the structural integrity of outdoor steel and other outdoor construction materials and listed by the Underwriters Laboratories Inc. of the United States for the fire protection of steel;

“fire-retardant coatings” means architectural coatings that are labelled and formulated to retard ignition and flame spread;

“flat coatings” means architectural coatings that register a gloss of less than 15 on a 85-degree meter or less than 5 on a 60-degree meter;

“floor coatings” means opaque coatings that are formulated for or applied to flooring, including but not limited to decks, porches, gymnasiums and bowling alleys, but do not include industrial maintenance coatings;

“granite look-alike coatings or textured undercoaters” means granite look-alike, ceramic look-alike or mosaic look-alike lithic paints and textured undercoaters;

“graphic arts (sign) coatings” means coatings that are formulated for hand-application by artists using brush or roller techniques to indoor and outdoor signs (excluding structural components) and murals, including lettering enamels, poster colours, copy blockers and bulletin enamels;

“high-temperature industrial maintenance coatings” means industrial maintenance coatings that are formulated for or applied to substrates exposed continuously or intermittently to temperatures above 204°C;

“industrial maintenance coatings” means architectural coatings, including primers, sealers, undercoaters, intermediate coatings and topcoats, that are formulated for or applied to substrates (including floors) that are exposed to one or more of the following extreme environmental conditions:

(a) immersion in water, waste water, or chemical solutions (aqueous and non-aqueous solutions) or chronic exposure of interior surfaces to moisture condensation;

(b) acute or chronic exposure to corrosive, caustic or acidic agents, or similar chemicals, chemical fumes, chemical mixtures or solutions;

(c) repeated exposure to temperatures in excess of 121°C;

(d) repeated heavy abrasion, including mechanical wear and repeated scrubbing with industrial solvents, cleaners or scouring agents; or

(e) exterior exposure of metal structures;

“interior stains” means stains that are labelled and formulated exclusively for use on interior surfaces;

“Japans or faux finishing coatings” means glazes that are designed for wet-in-wet techniques and used as a stain or glaze to create artistic effects, including but not limited to dirt, old age, smoke damage and simulated marble and wood grain;

“lacquers” means clear or pigmented wood finishes, including clear lacquer sanding sealers, that are formulated with nitrocellulose or synthetic resins to dry by evaporation without chemical reaction;

“low-solids coatings” means architectural coatings containing 0.12 kg or less of solids per litre of material;

“magnesite cement coatings” means coatings that are formulated for or applied to magnesite cement decking to protect the magnesite cement substrate from erosion by water;

“mastic coatings” means architectural coatings that are formulated to cover holes and minor cracks and to conceal surface irregularities, and applied to a thickness of at least 0.25 mm (dry, single coat);

“metallic pigmented coatings” means architectural coatings in a ready to use condition, excluding roof coatings, containing at least 48 grams per litre of coating, of elemental metallic pigment (excluding zinc), mica particles or any combination of metallic pigments and mica particles;

“Method 24” means Method 24, “Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings”, as adopted by US EPA;

“Method 303” means Method 303, “Determination of Exempt Compounds”, as adopted by the South Coast Air Quality Management District of California, United States;

“multi-colour coatings” means architectural coatings that exhibit more than one colour when applied and are packaged in a single container and applied in a single coat;

“non-flat coatings” means architectural coatings that register a gloss of 5 or greater on a 60-degree meter and a gloss of 15 or greater on a 85-degree meter;

“other architectural coatings” means any architectural coatings not otherwise listed in this Schedule;

“post-consumer coatings” means finished coatings that would have been disposed of as waste, having completed their usefulness to a consumer, and do not include manufacturing wastes;

“pre-treatment coatings for metal” means architectural coatings that contain no more than 12% solids by weight, and at least 0.5% acid by weight, are used to provide surface etching, and are applied directly to metal surfaces to provide corrosion resistance, adhesion and ease of stripping;

“pre-treatment wash primers” means architectural coatings that contain a minimum of 0.5% acid by weight, applied directly to bare metal surfaces to provide necessary surface etching;

“primers” means architectural coatings that are applied to a surface to provide a firm bond between the substrate and subsequent coats;

“quick-dry enamels” means non-flat coatings that:

(a) are capable of being applied directly from the container by brush or roller under normal conditions (the normal conditions being ambient temperatures between 16°C and 27°C);

(b) when tested by ASTM D1640, are set-to-touch in 2 hours or less, dry-hard in 8 hours or less and tack-free in 4 hours or less by the mechanical test method; and

(c) have a dried film gloss of 70 or greater on a 60-degree meter;

“quick-dry primers, sealers and undercoaters” means primers, sealers and undercoaters that are intended to be applied to a surface to provide a firm bond between the substrate and subsequent coats and that are dry-to-touch in half an hour and can be recoated in 2 hours (ASTM D1640);

“recycled coatings” means architectural coatings that are formulated such that 50% or more of the total weight consists of secondary and post-consumer coatings and 10% or more of the total weight consists of post-consumer coatings;

“roof coatings” means coatings that are formulated for application to roofs for the primary purpose of preventing penetration of the substrate by water or reflecting heat and ultraviolet radiation;

“roof primers (bituminous)” means primers that are formulated for or applied to roofing that incorporates bituminous coating materials;

“rust preventative coatings” means architectural coatings that are formulated for use in preventing the corrosion of metal surfaces in residential and commercial situations;

“sanding sealers” means clear wood architectural coatings that are formulated for or applied to bare wood for sanding and to seal the wood for subsequent application of coatings;

“sealers” means architectural coatings that are applied to either block materials from penetrating into or leaching out of a substrate, to prevent subsequent coatings from being absorbed by the substrate or to prevent harm to subsequent coatings by materials in the substrate;

“shellacs” means clear or pigmented architectural coatings that are formulated solely with the resinous secretions of the lac beetle (*laccifer lacca*), thinned with alcohol, and formulated to dry by evaporation without a chemical reaction;

“specialty primers” means architectural coatings that are formulated for or applied to a substrate to seal fire, smoke or water damage, or to condition excessively chalky surfaces that have chalk rating of 4 or less as determined by the ASTM D4214 Photographic Reference Standard No. 1;

“stains” means opaque or semi-transparent architectural coatings that are formulated to change the colour but not conceal the grain pattern or texture;

“superior durability solvent-borne coatings for metal” means solvent-borne architectural coatings for metal with:

- (a) a minimum of 10 years durability;
- (b) no less than 500 hours weather resistance as determined by ASTM G154; and
- (c) protection against corrosion in an acidic or alkaline environment;

“swimming pool coatings” means coatings that are specifically formulated for or applied to the interior of swimming pools and to resist swimming pool chemicals;

“swimming pool repair coatings” means chlorinated and rubber-based coatings that are used for the repair and maintenance of swimming pools over existing chlorinated and rubber-based coatings;

“traffic coatings” means coatings that are formulated for or applied to public streets, highways and other surfaces, including but not limited to kerbs, berms, driveways and parking lots;

“undercoaters” means architectural coatings that are formulated for or applied to substrates to provide a smooth surface for subsequent coats;

“varnishes” means clear wood finishes that are formulated with various resins to dry by chemical reaction;

”volatile organic compound” means any volatile compound of carbon excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides, metallic carbonates, ammonium carbonate and exempt compounds;

“waterproofing concrete or masonry sealers” means clear or pigmented sealers that are formulated for sealing concrete and masonry to provide resistance against water, alkalis, acids, ultraviolet light and staining;

“waterproofing sealers” means architectural coatings that are formulated for the primary purpose of preventing penetration of porous substrates by water;

“wood preservatives” means architectural coatings that are formulated to protect wood from decay or insect attack by the addition of a wood preservative chemical;

“zinc-rich industrial maintenance primers” means primers that are formulated to contain a minimum of 65% metallic zinc powder (zinc dust) by weight of total solids for application to metal substrates.

PART 2

MAXIMUM LIMITS OF VOLATILE ORGANIC COMPOUND CONTENT FOR REGULATED ARCHITECTURAL PAINTS TO WHICH SECTION 3(1) OF THIS REGULATION APPLIES (L.N. 107 of 2009)

The following maximum limits of volatile organic compound content, expressed as grams of volatile organic compounds per litre of coating and as determined under section 1 of Part 5, are specified for the following regulated architectural paints when in a ready to use condition: (L.N. 107 of 2009)

Item	Regulated architectural paints	Maximum limits of volatile organic compound content
1.	Aluminium roof coatings	250
2.	Below-ground wood preservatives	350
3.	Bond breakers	350
4.	Clear brushing lacquers	650
5.	Clear wood finishes (sanding sealers)	150
6.	Concrete-curing compounds	350
7.	Dry-fog coatings	400

8.	Fire-proofing exterior coatings	350
9.	Graphic arts (sign) coatings	500
10.	Interior stains	250
11.	Magnesite cement coatings	450
12.	Mastic coatings	300
13.	Other architectural coatings	250
14.	Pigmented lacquers	275
15.	Recycled coatings	250
16.	Roof coatings (exposed)	50
17.	Roof coatings (non-exposed)	250
18.	Shellacs (clear)	730
19.	Shellacs (pigmented)	550
20.	Specialty primers	350
21.	Stains	100
22.	Swimming pool repair coatings	340
23.	Swimming pool coatings (other)	340
24.	Waterproofing concrete or masonry sealers	400
25.	Wood preservatives (other)	350

PART 3

MAXIMUM LIMITS OF VOLATILE ORGANIC COMPOUND CONTENT FOR REGULATED ARCHITECTURAL PAINTS TO WHICH SECTION 3(2) OF THIS REGULATION APPLIES (L.N. 107 of 2009)

The following maximum limits of volatile organic compound content, expressed as grams of volatile organic compounds per litre of coating and as determined under section 1 of Part 5, are specified for the following regulated architectural paints when in a ready to use condition: (L.N. 107 of 2009)

Item	Regulated architectural paints	Maximum limits of volatile organic compound content
1.	Fire-retardant coatings (clear)	650
2.	Flat coatings	50
3.	Granite look-alike coatings or textured undercoaters	100
4.	Japans or faux finishing coatings	350
5.	Multi-colour coatings	250
6.	Non-flat coatings	150
7.	Roof primers (bituminous)	350

PART 4

MAXIMUM LIMITS OF VOLATILE ORGANIC COMPOUND CONTENT FOR REGULATED ARCHITECTURAL PAINTS TO WHICH SECTION 3(3) OF THIS REGULATION APPLIES (L.N. 107 of 2009)

1. The following maximum limits of volatile organic compound content, expressed as grams of volatile organic compounds per litre of coating and as determined under section 1 of Part 5, are specified for the following regulated architectural paints when in a ready to use condition: (L.N.

107 of 2009)

Item	Regulated architectural paints	Maximum limits of volatile organic compound content
1.	Clear wood finishes (lacquers)	550
2.	Clear wood finishes (varnishes)	150
3.	Extreme high-gloss coatings for metal	420
4.	Fire-retardant coatings (pigmented)	350
5.	Floor coatings	250
6.	High-temperature industrial maintenance coatings	420
7.	Industrial maintenance coatings	250
8.	Metallic pigmented coatings	500
9.	Pre-treatment coatings for metal	420
10.	Pre-treatment wash primers	420
11.	Primers, sealers and undercoaters	200
12.	Quick-dry enamels	250
13.	Quick-dry primers, sealers and undercoaters	200
14.	Rust preventative coatings	400
15.	Superior durability solvent-borne coatings for metal	420
16.	Traffic coatings	150
17.	Waterproofing sealers	250
18.	Zinc-rich industrial maintenance primers	250

2. The following maximum limit of volatile organic compound content, expressed as grams of volatile organic compounds per litre of material and as determined under section 2 of Part 5 is specified for the following regulated architectural paint when in a ready to use condition: (L.N. 107 of 2009)

Item	Regulated architectural paint	Maximum limit of volatile organic compound content
1.	Low-solids coatings	120

PART 5

METHOD OF CALCULATING THE VOLATILE ORGANIC COMPOUND CONTENT OF REGULATED ARCHITECTURAL PAINTS (L.N. 107 of 2009)

1. With the exception of low-solids coatings, the volatile organic compound content of regulated architectural paints in a ready to use condition shall be calculated by the following formula: (L.N. 107 of 2009)

$W_a - W_b - W_c - W_d$

 $V_e - V_f - V_g$

Where:

Wa represents the weight of volatile matters in grams as determined by Method 24;

Wb represents the weight of water in grams as determined by Method 24;

Wc represents the weight of exempt compounds in grams as determined by Method 303;

Wd represents the weight of volatile organic compounds in grams of any colourant added to tint base per litre of material, as provided by the paint manufacturer or importer;

Ve represents the volume of material in litres as determined by Method 24;

Vf represents the volume of water in litres as determined by Method 24;

Vg represents the volume of exempt compounds in litres as determined by Method 303.

2. For low-solids coatings in a ready to use condition, the volatile organic compound content shall be calculated by the following formula:

$$\frac{W_a - W_b - W_c - W_d}{V_e}$$

Where:

Wa represents the weight of volatile matters in grams as determined by Method 24;

Wb represents the weight of water in grams as determined by Method 24;

Wc represents the weight of exempt compounds in grams as determined by Method 303;

Wd represents the weight of volatile organic compounds in grams of any colourant added to tint base per litre of material, as provided by the paint manufacturer or importer;

Ve represents the volume of the material in litres as determined by Method 24.
(L.N. 107 of 2009)

Note:

* (Amended L.N. 107 of 2009)

SCHEDULE 2
REGULATED PRINTING INKS VerDate:01/01/2010

[sections 2, 10, 11 & 12]

PART 1

DEFINITIONS

In this Schedule, unless the context otherwise requires:
“exempt compound” means any of the following compounds:

- (a) acetone;
- (b) 1-chloro-1,1-difluoroethane (HCFC-142b);
- (c) chlorodifluoromethane (HCFC-22);
- (d) 1-chloro-1-fluoroethane (HCFC-151a);
- (e) chlorofluoromethane (HCFC-31);
- (f) chloropentafluoroethane (CFC-115);
- (g) 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124);
- (h) cyclic, branched, or linear, completely fluorinated alkanes;
- (i) cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;
- (j) cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations;
- (k) cyclic, branched, or linear, completely methylated siloxanes (VMS);
- (l) 1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC-43-10mee);
- (m) dichlorodifluoromethane (CFC-12);
- (n) 1,1-dichloro-1-fluoroethane (HCFC-141b);
- (o) 3,3-dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca);
- (p) 1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb);
- (q) 1,2-dichloro-1,1,2,2-tetrafluoroethane (CFC-114);
- (r) 2,2-dichloro-1,1,1-trifluoroethane (HCFC-123);
- (s) 1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a);

- (t) 1,1-difluoroethane (HFC-152a);
- (u) difluoromethane (HFC-32);
- (v) 2-(difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane ((CF₃)₂CF₂OC₂H₅);
- (w) ethane;
- (x) 2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane ((CF₃)₂CF₂OC₂H₅);
- (y) 1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane (C₄F₉OC₂H₅);
- (z) ethylfluoride (HFC-161);
- (za) 1,1,1,2,3,3-hexafluoropropane (HFC-236ea);
- (zb) 1,1,1,3,3,3-hexafluoropropane (HFC-236fa);
- (zc) methyl acetate;
- (zd) methylene chloride (dichloromethane);
- (ze) 1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butane (C₄F₉OCH₃);
- (zf) parachlorobenzotrifluoride (PCBTF);
- (zg) 1,1,1,3,3-pentafluorobutane (HFC-365mfc);
- (zh) pentafluoroethane (HFC-125);
- (zi) 1,1,2,2,3-pentafluoropropane (HFC-245ca);
- (zj) 1,1,2,3,3-pentafluoropropane (HFC-245ea);
- (zk) 1,1,1,2,3-pentafluoropropane (HFC-245eb);
- (zl) 1,1,1,3,3-pentafluoropropane (HFC-245fa);
- (zm) perchloroethylene (tetrachloroethylene);
- (zn) sulphur-containing perfluorocarbons with no unsaturations and with sulphur bonds only to carbon and fluorine;
- (zo) 1,1,2,2-tetrafluoroethane (HFC-134);
- (zp) 1,1,1,2-tetrafluoroethane (HFC-134a);
- (zq) 1,1,1-trichloroethane (methyl chloroform);
- (zr) trichlorofluoromethane (CFC-11);

(zs) 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113);

(zt) 1,1,1-trifluoroethane (HFC-143a);

(zu) trifluoromethane (HFC-23);

“flexographic ink” means an ink used in flexographic printing, which is a printing method utilizing a flexible rubber or other elastomeric plate in which the image area is raised relative to the non-image area;

“fluorescent ink” means an ink that emits electromagnetic radiation as a result of the absorption of energy from radiation;

“gravure ink” means an ink used in gravure printing, which is an intaglio printing process in which the ink is carried in minute etched or engraved wells on a roll or cylinder, excess ink being removed from the surface by a doctor blade;

“heatset ink” means an ink:

(a) used on continuous web-feed printing presses that are equipped with dryers or ovens; and

(b) dries or sets by heat induced evaporation of the ink oils and subsequent chilling of the ink by chill rolls;

“letterpress ink” means an ink used in letterpress printing, which is a printing process in which the image area is raised relative to the non-image area and the ink is transferred to the substrate directly from the image surface;

“lithographic ink” means an ink used in lithographic printing, which is a planographic printing process in which the image and non-image areas are on the same plane and are chemically differentiated;

“Method 24” means Method 24, “Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings”, as adopted by US EPA;

“Method 24A” means Method 24A, “Determination of Volatile Matter Content and Density of Publication Rotogravure Inks and Related Publication Rotogravure Coatings” as adopted by US EPA;

“Method 303” means Method 303, “Determination of Exempt Compounds” as adopted by the South Coast Air Quality Management District of California, United States;

“non-porous substrate” means a substrate whose surface prevents penetration by water, including but not limited to foil, polyethylene, polypropylene, cellophane, paper or paperboard coated with a non-porous material, metalized polyester, nylon and mylar;

“porous substrate” means a substrate whose surface does not prevent the penetration by water, including but not limited to paper, paperboard and any paper product that is coated with a porous material;

“printing ink” means a pigmented fluid or viscous material used in printing;

“screen printing ink” means an ink represented for application on paper substrate and used in screen printing, which is a printing process in which the ink is passed through a taut web or fabric to which a refined form of stencil has been applied; (L.N. 107 of 2009)

“volatile organic compound” means any volatile compound of carbon excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides, metallic carbonates, ammonium carbonate and exempt compounds.

PART 2

MAXIMUM LIMITS OF VOLATILE ORGANIC COMPOUND CONTENT FOR REGULATED PRINTING INKS TO WHICH SECTION 10(1) OF THIS REGULATION APPLIES

The following maximum limits of volatile organic compound content, expressed as grams of volatile organic compound per litre of printing ink and as determined under section 1 of Part 4, are specified for the following regulated printing inks when in a ready to use condition:

Item	Regulated printing inks	Maximum limits of volatile organic compound content
1.	Flexographic fluorescent ink	300
2.	Flexographic ink non-porous substrate	300
3.	Flexographic ink porous substrate	225
4.	Letterpress ink	300
5.	Lithographic ink (except heatset ink)	300

PART 3

MAXIMUM LIMITS OF VOLATILE ORGANIC COMPOUND CONTENT FOR REGULATED PRINTING INKS TO WHICH SECTION 10(2) OF THIS REGULATION APPLIES

The following maximum limits of volatile organic compound content, expressed as grams of volatile organic compounds per litre of printing ink and as determined under Part 4, are specified for the following regulated printing inks when in a ready to use condition:

Item	Regulated printing inks	Maximum limits of volatile organic compound content
1.	Gravure ink	300
2.	Screen printing ink	400

PART 4

METHOD OF CALCULATING THE VOLATILE ORGANIC COMPOUND CONTENT OF REGULATED PRINTING INKS

1. With the exception of gravure inks, the volatile organic compound content of all regulated printing inks in a ready to use condition shall be calculated by the following formula:

$$\frac{W_a - W_b - W_c}{V_d - V_e - V_f}$$

Where:

W_a represents the weight of volatile matters in grams as determined by Method 24;

W_b represents the weight of water in grams as determined by Method 24;

W_c represents the weight of exempt compounds in grams as determined by Method 303;

V_d represents the volume of material in litres as determined by Method 24;

V_e represents the volume of water in litres as determined by Method 24;

V_f represents the volume of exempt compounds in litres as determined by Method 303.

2. The volatile organic compound content of all gravure inks in a ready to use condition shall be calculated by the following formula:

$$\frac{W_a - W_b - W_c}{V_d - V_e - V_f}$$

Where:

W_a represents the weight of volatile matters in grams as determined by Method 24A;

W_b represents the weight of water in grams as determined by Method 24A;

W_c represents the weight of exempt compounds in grams as determined by Method 303;

V_d represents the volume of material in litres as determined by Method 24A;

V_e represents the volume of water in litres as determined by Method 24A;

V_f represents the volume of exempt compounds in litres as determined by Method 303.
(L.N. 107 of 2009)

SCHEDULE 3
REGULATED CONSUMER PRODUCTS VerDate:01/01/2010

[sections 2, 13, 14, 15 &
16L & Schedule 7]
(L.N. 107 of 2009)

PART 1

DEFINITIONS

In this Schedule, unless the context otherwise requires:

“aerosol product” means a pressurized spray system that dispenses product ingredients by means of a propellant contained in a product or a product’s container, or by means of a mechanically induced force, but does not include pump spray;

“agricultural use” means the use of any pesticide or method or device for the control of pests in connection with the commercial production, storage or processing of any animal or plant crop, but does not include the sale or use of pesticides in properly labelled packages or containers that are intended for home use, industrial use or institutional use;

“air freshener” means any consumer product, including but not limited to sprays, wicks, powders and crystals designed for the purpose of masking odours, or freshening, cleaning, scenting or deodorizing the air and includes dual purpose aerosol air freshener and disinfectant products, but does not include:

- (a) products that are used on the human body;
- (b) products that function primarily as cleaning products as indicated on a product label; or
- (c) toilet or urinal care products;

“chemical compound” means a molecule of definite chemical formula and isomeric structure;

“chemical mixture” means a substance comprising 2 or more chemical compounds;

“crawling bug insecticide” means any insecticide product that is designed for use against ants, cockroaches or other household crawling arthropods, including but not limited to mites, silverfish or spiders, but does not include products that are designed to be used exclusively on humans or animals or any house dust mite product;

“device” means any instrument that is designed for trapping, destroying, repelling, or mitigating any pest or any other form of plant or animal life, but does not include equipment that is used for the application of pesticides when sold separately from the pesticide;

“double phase aerosol air freshener” means an aerosol air freshener with the liquid contents in 2 or more distinct phases that requires the product container to be shaken before use to mix the phases producing an emulsion;

“dual purpose aerosol air freshener and disinfectant” means an aerosol product that is represented on the product container for use as both an air freshener and a disinfectant, or is so represented on any sticker, label, packaging or literature attached to the product container;

“finish” or “finishing” means the maintaining or holding of previously styled hair for a period of time;

“flea and tick insecticide” means any insecticide product that is designed for use against fleas, ticks, their larvae, or their eggs, but does not include any products that are designed to be used exclusively on humans or animals and their bedding;

“floor wax stripper” means any product that is designed to remove natural or synthetic floor polishes or waxes through breakdown of the polish or wax polymers, or by dissolving or emulsifying the polish or wax, but does not include aerosol floor wax strippers or products that are designed to remove floor wax solely through abrasion;

“flying bug insecticide” means any insecticide product that is designed for use against flying insects or other flying arthropods, including but not limited to flies, mosquitoes, moths or gnats, but does not include any products that are designed to be used exclusively on humans or animals or any moth-proofing product;

“fragrance” means a substance or complex mixture of aroma chemicals, natural essential oils, and other functional components with a combined vapour pressure not in excess of 2 mm of Hg at 20°C, the sole purpose of which is to impart an odour or scent or to counteract a malodour;

“gel” means a colloid in which the disperse phase has combined with the continuous phase to produce a semi-solid material, such as jelly;

“hairspray” in relation to a product manufactured in Hong Kong or imported into Hong Kong:

(a) on or before 31 December 2008, means a product that:

(i) is designed primarily for the purpose of dispensing droplets of a resin on and into a hair coiffure; and

(ii) will impart sufficient rigidity to the coiffure to establish or retain the style for a period of time; and

(b) after 31 December 2008, means a product that is:

(i) applied to styled hair; and

(ii) designed or labelled to provide sufficient rigidity, and to hold, retain or finish the style of the hair for a period of time, and includes aerosol hairsprays, pump hairsprays, spray waxes, colour, glitter, or sparkle hairsprays that make finishing claims and products that are both styling and finishing products, but does not include spray products that are intended to aid in styling but does not provide finishing of a hairstyle;

“home use” means use in a household or its immediate environment;

“house dust mite” means mites that feed primarily on skin cells shed in the home by humans and pets;

“house dust mite product” means a product whose label, packaging or accompanying literature states that the product is suitable for use against house dust mites, but does not indicate that the product is suitable for use against ants, cockroaches or other household crawling arthropods;

“industrial use” means use for or in a manufacturing, mining or chemical process, or use in the operation of factories, processing plants and similar sites;

“insecticide” means any pesticide product that is designed for use against insects or other arthropods, but excluding products that are:

- (a) for agricultural use;
- (b) for industrial use; or
- (c) for institutional use;

“insecticide fogger” means any insecticide product that is designed to release all or most of its content, as a fog or mist, into indoor areas during a single application;

“insect repellent” means any pesticide product that is designed to be applied on human skin, hair or attire worn on humans in order to prevent contact with or repel biting insects or arthropods;

“institutional use” means use within the lines of or on property necessary for the operation of buildings such as hospitals, schools, libraries, auditoriums and office complexes;

“lawn and garden insecticide” means any insecticide product that is labelled primarily to be used in household lawn and garden areas to protect plants from insects or other arthropods;

“liquid” means a substance or mixture of substances that is capable of a visually detectable flow, but does not include powders or other materials that are composed entirely of solid particles;

“lubricant” means a product that is designed to reduce friction, heat, noise, or wear between moving parts, or to loosen rusted or immovable parts or mechanisms, but does not include:

- (a) automotive power steering fluids;
- (b) products for use inside power generating motors, engines and turbines, and their associated power-transfer gearboxes;
- (c) 2-cycle oils or other products designed to be added to fuels;
- (d) products for use on human body or animals; or
- (e) products that are:
 - (i) sold exclusively to an establishment that manufactures or constructs goods or commodities; and
 - (ii) labelled “not for retail sale”;

“LVP-VOC” means a low vapour pressure volatile organic compound, which is a chemical compound or chemical mixture containing at least one carbon atom and meeting one of the following criteria:

(a) has a vapour pressure less than 0.1 mm Hg at 20°C;

(b) is a chemical compound with more than 12 carbon atoms, or a chemical mixture consisting solely of chemical compounds with more than 12 carbon atoms as verified by formulation data and the vapour pressure and boiling point of which are unknown;

(c) is a chemical compound with a boiling point greater than 216°C;

or

(d) is the percent by weight of a chemical mixture that boils above 216°C;

“Method 18” means Method 18, “Measurement of Gaseous Organic Compound Emissions by Gas Chromatography” as adopted by US EPA;

“Method 24” means Method 24, “Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings”, as adopted by US EPA;

“Method 24A” means Method 24A, “Determination of Volatile Matter Content and Density of Publication Rotogravure Inks and Related Publication Rotogravure Coatings”, as adopted by US EPA;

“Method 300.7” means Method 300.7, “Dissolved Sodium, Ammonium, Potassium, and Calcium in Wet Deposition by Chemically Suppressed Ion Chromatography”, as adopted by US EPA;

“Method 310” means Method 310, “Determination of Volatile Organic Compounds in Consumer Products and Reactive Organic Compounds in Aerosol Coating Products” as adopted by the Air Resources Board of California, United States;

“Method 1400” means Method 1400, “Alcohol I, Analysis of Acetone and Ethanol by Gas Chromatography, NIOSH Manual of Analytical Methods, Volume 1” as adopted by NIOSH;

“Method 8260” means Method 8260B, “Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS), Test Methods for Evaluating Solid Waste, Volume 1B, Chapter 4, Section 4.3.2; Laboratory Manual Physical/Chemical Methods, SW-846” as adopted by US EPA;

“moth-proofing product” means a product whose label, packaging or accompanying literature indicates that the product is designed to protect fabrics from damage by moths, but does not indicate that the product is suitable for use against flying insects or other flying arthropods;

“multi-purpose dry lubricant” means any lubricant that is:

(a) designed and labelled to provide lubricity by depositing a thin film of graphite, molybdenum disulphide (“moly”) or polytetrafluoroethylene or closely related fluoropolymer (“Teflon”) on surfaces; and

(b) designed and labelled for general purpose lubrication, or for use in a wide variety of applications;

“multi-purpose lubricant” means any lubricant that is designed for general purpose lubrication, or for use in a wide variety of applications, but does not include multi-purpose dry lubricant, penetrant or silicone-based multi-purpose lubricant;

“penetrant” means a lubricant that is designed and labelled primarily to loosen metal parts that have bonded together due to rusting, oxidation or other causes, but does not include multi-purpose lubricant that claims to have penetrating qualities and is not labelled primarily to loosen bonded parts;

“propellant” means a liquefied or compressed gas that is used in whole or in part, such as cosolvent, to expel a liquid or any other material from the same self-pressurized container or from a separate container;

“pump spray” means a packaging system in which the product ingredients within the container are not under pressure and in which the product is expelled only while a pumping action is applied to a button, trigger or other actuator;

“silicone-based multi-purpose lubricant” means any lubricant that is:

(a) designed and labelled primarily to provide lubricity through the use of silicone compounds, including but not limited to polydimethylsiloxane; and

(b) designed and labelled for general purpose lubrication, or for use in a wide variety of applications, but does not include products that are designed and labelled exclusively to release manufactured products from moulds;

“single phase aerosol air freshener” means an aerosol air freshener with the liquid contents in a single homogeneous phase and which does not require the product container to be shaken before use;

“solid” means a substance or mixture of substances that, either in whole or subdivided such as the particles comprising a powder, is not capable of visually detectable flow;

“styling” means the forming, sculpting or manipulating the hair to temporarily alter the shape of the hair;

“toilet or urinal care product” means any product that is designed or labelled to clean or to deodorize toilet bowl, toilet tank or urinal;

“wax” means a material or synthetic thermoplastic substance generally of high molecular weight hydrocarbons or high molecular weight esters of fatty acids or alcohols, except glycerol and high polymers (plastics).
(L.N. 107 of 2009)

PART 2

MAXIMUM LIMIT OF VOLATILE ORGANIC COMPOUND CONTENT FOR REGULATED CONSUMER PRODUCT TO WHICH SECTION 13(1) OF THIS REGULATION APPLIES

1. The following maximum limit of volatile organic compound content, expressed as percent by weight, is specified for the following regulated consumer product:

Item	Regulated consumer product	Maximum limit of volatile organic compound content
1.	Hairspray	80

2. For the purposes of section 1:

(a) “volatile organic compound” means any volatile compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides, metallic carbonates, ammonium carbonate and exempt compounds;

(b) in calculating the volatile organic compound content of the regulated consumer product, fragrances incorporated into the product up to a combined level of 2% by weight of the product shall be excluded;

(c) “exempt compound” means any of the following compounds:

- (i) acetone;
- (ii) 1-chloro-1,1-difluoroethane (HCFC-142b);
- (iii) chlorodifluoromethane (HCFC-22);
- (iv) 1-chloro-1-fluoroethane (HCFC-151a);
- (v) chlorofluoromethane (HCFC-31);
- (vi) chloropentafluoroethane (CFC-115);
- (vii) 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124);
- (viii) cyclic, branched, or linear, completely fluorinated alkanes;
- (ix) cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;
- (x) cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations;
- (xi) cyclic, branched, or linear, completely methylated siloxanes (VMS);
- (xii) 1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC-43-10mee);
- (xiii) dichlorodifluoromethane (CFC-12);
- (xiv) 1,1-dichloro-1-fluoroethane (HCFC-141b);
- (xv) 3,3-dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca);
- (xvi) 1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb);
- (xvii) 1,2-dichloro-1,1,2,2-tetrafluoroethane (CFC-114);
- (xviii) 2,2-dichloro-1,1,1-trifluoroethane (HCFC-123);
- (xix) 1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a);
- (xx) 1,1-difluoroethane (HFC-152a);

- (xxi) difluoromethane (HFC-32);
- (xxii) 2-(difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane ((CF₃)₂CF₂OC₂H₅);
- (xxiii) ethane;
- (xxiv) 2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane ((CF₃)₂CF₂OC₂H₅);
- (xxv) 3-ethoxy-1,1,1,2,3,4,4,5,5,6,6,6-dodecafluoro-2-(trifluoromethyl)-hexane (HFE-7500);
- (xxvi) 1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane (C₄F₉OC₂H₅ or HFE-7200);
- (xxvii) ethylfluoride (HFC-161);
- (xxviii) 1,1,1,2,2,3,3-heptafluoro-3-methoxy-propane (n-C₃F₇OCH₃ or HFE-7000);
- (xxix) 1,1,1,2,3,3,3-heptafluoropropane (HFC-227ea);
- (xxx) 1,1,1,2,3,3-hexafluoropropane (HFC-236ea);
- (xxxi) 1,1,1,3,3,3-hexafluoropropane (HFC-236fa);
- (xxxii) LVP-VOC;
- (xxxiii) methane;
- (xxxiv) methyl acetate;
- (xxxv) methyl formate (HCOOCH₃);
- (xxxvi) methylene chloride (dichloromethane);
- (xxxvii) 1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butane (C₄F₉OCH₃ or HFE-7100);
- (xxxviii) parachlorobenzotrifluoride (PCBTF);
- (xxxix) 1,1,1,3,3-pentafluorobutane (HFC-365mfc);
- (xl) pentafluoroethane (HFC-125);
- (xli) 1,1,2,2,3-pentafluoropropane (HFC-245ca);
- (xlii) 1,1,2,3,3-pentafluoropropane (HFC-245ea);
- (xliii) 1,1,1,2,3-pentafluoropropane (HFC-245eb);
- (xliv) 1,1,1,3,3-pentafluoropropane (HFC-245fa);
- (xlv) perchloroethylene (tetrachloroethylene);

(xlvi) sulphur-containing perfluorocarbons with no unsaturations and with sulphur bonds only to carbon and fluorine;

(xlvii) 1,1,2,2-tetrafluoroethane (HFC-134);

(xlviii) 1,1,1,2-tetrafluoroethane (HFC-134a);

(xlix) 1,1,1-trichloroethane (methyl chloroform);

(l) trichlorofluoromethane (CFC-11);

(li) 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113);

(lii) 1,1,1-trifluoroethane (HFC-143a);

(liii) trifluoromethane (HFC-23).

PART 3

MAXIMUM LIMITS OF VOLATILE ORGANIC COMPOUND CONTENT FOR REGULATED CONSUMER PRODUCTS TO WHICH SECTION 13(2) OF THIS REGULATION APPLIES

The following maximum limits of volatile organic compound content, expressed as percent by weight, are specified for the following regulated consumer products:

Item	Regulated consumer products	Maximum limits of volatile organic compound content
1.	Air freshener:	
	(a) Double phase aerosol air freshener	25
	(b) Dual purpose aerosol air freshener and disinfectant	60
	(c) Single phase aerosol air freshener	30
2.	Floor wax stripper:	
	(a) For heavy build-up of polish	12
	(b) For light or medium build-up of polish	3
3.	Multi-purpose lubricant, excluding product in the form of solid or semi-solid	50
4.	Insecticide:	
	(a) Aerosol lawn and garden insecticide	20
	(b) Flea and tick insecticide	25
	(c) Insecticide fogger	45

PART 4

MAXIMUM LIMITS OF VOLATILE ORGANIC COMPOUND CONTENT FOR REGULATED CONSUMER PRODUCTS TO WHICH SECTION 13(3) OF THIS REGULATION APPLIES

The following maximum limits of volatile organic compound content, expressed as percent by weight, are specified for the following regulated consumer products:

Item	Regulated consumer products	Maximum limits of volatile organic compound content
1.	Aerosol insect repellent	65
2.	Air freshener:	
	(a) Air freshener in the form of liquid or pump spray	18
	(b) Air freshener in the form of solid or gel	3
3.	Hairspray	55
4.	Insecticide:	
	(a) Aerosol crawling bug insecticide	15
	(b) Aerosol flying bug insecticide	25

PART 5

EXCLUSIONS FROM PARTS 3 AND 4

Notwithstanding Parts 3 and 4, the limits of volatile organic compound content specified in those Parts do not apply to the following:

- (a) air freshener that, less exempt compounds, comprises entirely fragrance;
- (b) insecticide containing at least 98% paradichlorobenzene; or
- (c) bait station insecticide, which is a container enclosing an insecticidal bait that is not more than 14.2 grams by weight, where the bait is designed to be ingested by insects and is composed of solid material feeding stimulants with less than 5% by weight of active ingredients.

PART 6

GENERAL PROVISIONS FOR PARTS 3, 4 AND 5

For the purposes of Parts 3, 4 and 5:

- (a) “volatile organic compound” means any volatile compound containing at least one atom of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides, metallic carbonates, ammonium carbonate and exempt compounds;
- (b) in calculating the volatile organic compound content of the regulated consumer product, fragrances incorporated into the product up to a combined level of 2% by weight of the product shall be excluded;
- (c) “exempt compound” means any of the following compounds:
 - (i) acetone;
 - (ii) 1-chloro-1,1-difluoroethane (HCFC-142b);

- (iii) chlorodifluoromethane (HCFC-22);
- (iv) chloropentafluoroethane (CFC-115);
- (v) 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124);
- (vi) cyclic, branched, or linear, completely fluorinated alkanes;
- (vii) cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;
- (viii) cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations;
- (ix) cyclic, branched, or linear, completely methylated siloxanes (VMS);
- (x) dichlorodifluoromethane (CFC-12);
- (xi) 1,1-dichloro-1-fluoroethane (HCFC-141b);
- (xii) 1,2-dichloro-1,1,2,2-tetrafluoroethane (CFC-114);
- (xiii) 2,2-dichloro-1,1,1-trifluoroethane (HCFC-123);
- (xiv) 1,1-difluoroethane (HFC-152a);
- (xv) ethane;
- (xvi) LVP-VOC;
- (xvii) methane;
- (xviii) methyl acetate;
- (xix) methylene chloride (dichloromethane);
- (xx) parachlorobenzotrifluoride (PCBTF);
- (xxi) pentafluoroethane (HFC-125);
- (xxii) perchloroethylene (tetrachloroethylene);
- (xxiii) sulphur-containing perfluorocarbons with no unsaturations and with sulphur bonds only to carbon and fluorine;
- (xxiv) 1,1,2,2-tetrafluoroethane (HFC-134);
- (xxv) 1,1,1,2-tetrafluoroethane (HFC-134a);
- (xxvi) 1,1,1-trichloroethane (methyl chloroform);
- (xxvii) trichlorofluoromethane (CFC-11);

(xxviii) 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113);

(xxix) 1,1,1-trifluoroethane (HFC-143a);

(xxx) trifluoromethane (HFC-23).

PART 7

METHOD OF CALCULATING THE VOLATILE ORGANIC COMPOUND CONTENT OF REGULATED CONSUMER PRODUCTS

1. The volatile organic compound content of regulated consumer products listed in Parts 2, 3 and 4 shall be determined by Appendices A and B of Method 310 and using the equations set out in sections 2, 3 and 4 of this Part as may be applicable.

2. If the regulated consumer product is:

(a) an aerosol product that does not contain LVP-VOC, the volatile organic compound content shall be calculated using the following equation:

$$\text{Percent by weight of volatile organic compounds} = \frac{\text{WL (TV - A - H - EL) + WP - EP}}{\text{WL + WP}} \times 100$$

Where:

WL represents the weight of the non-propellant portion in grams, excluding packaging and container;

TV represents the weight fraction of total volatile material in the non-propellant portion, as determined by Method 24 or Method 24A, ASTM D2369;

A represents the weight fraction of ammonium in the non-propellant portion, as determined by ASTM D1426 or Method 300.7;

H represents the weight fraction of water in the non-propellant portion, as determined by ASTM D3792 or ASTM D4017;

EL represents the weight fraction of exempt compounds in the non-propellant portion, as determined by Method 8260B, Method 18, ASTM D859, Method 1400;

WP represents the weight of propellant in grams, as determined by ASTM D3074 as modified in Appendix A of Method 310 for metal aerosol container or ASTM D3063 as modified in Appendix A of Method 310 for glass aerosol container;

EP represents the weight of exempt compounds in propellant in grams, as determined by Method 18;

(b) an aerosol product that contains LVP-VOC, the volatile organic compound content shall be calculated using the following equation:

$$\text{Percent by weight of volatile organic compounds} = \frac{\text{WL} [(1 - \text{H})(1 - \text{LVP}) - \text{EL}] + (\text{WP} - \text{EP})}{\text{WL} + \text{WP}} \times 100$$

Where:

WL represents the weight of the non-propellant portion in grams, excluding packaging and container;

H represents the weight fraction of water in the non-propellant portion, as determined by ASTM D3792 or ASTM D4017;

LVP represents the weight fraction of LVP-VOC compounds and/or mixtures in the non-propellant, non-aqueous portion, as determined by ASTM D86, ASTM D850, ASTM D1078, ASTM D2879 as modified in Appendix B of Method 310, ASTM D2887, ASTM E1719, section 4 of this Part;

WP represents the weight of propellant in grams, as determined by ASTM D3074 as modified in Appendix A of Method 310 for metal aerosol container or ASTM D3063 as modified in Appendix A of Method 310 for glass aerosol container;

EL represents the weight fraction of exempt compounds in the non-propellant portion, as determined by Method 8260B, Method 18, ASTM D859, Method 1400;

EP represents the weight of exempt compounds in propellant in grams, as determined by Method 18.

3. If the regulated consumer product is:

(a) a non-aerosol product that does not contain LVP-VOC, the volatile organic compound content shall be calculated using the following equation:

$$\text{Percent by weight of volatile organic compounds} = (\text{TV} - \text{A} - \text{H} - \text{EL}) \times 100$$

Where:

TV represents the weight fraction of total volatile material in the non-propellant portion, as determined by Method 24 or Method 24A, ASTM D2369;

A represents the weight fraction of ammonium in the non-propellant portion, as determined by ASTM D1426 or Method 300.7;

H represents the weight fraction of water in the non-propellant portion, as determined by ASTM D3792 or ASTM D4017;

EL represents the weight fraction of exempt compounds in the non-propellant portion, as determined by Method 8260B, Method 18, ASTM D859, Method 1400;

(b) a non-aerosol product that contains LVP-VOC, the volatile organic compound content shall be calculated using the following equation:

$$\text{Percent by weight of volatile organic compounds} = [(1 - \text{H})(1 - \text{LVP}) - \text{EL}] \times 100$$

Where:

H represents the weight fraction of water in the non-propellant portion, as determined by ASTM D3792 or ASTM D4017;

LVP represents the weight fraction of LVP-VOC compounds and/or mixtures in the non-propellant, non-aqueous portion, as determined by ASTM D86, ASTM D850, ASTM D1078, ASTM D2879 as modified in Appendix B of Method 310, ASTM D2887, ASTM E1719, section 4 of this Part;

EL represents the weight fraction of exempt compounds in the non-propellant portion, as determined by Method 8260B, Method 18, ASTM D859, Method 1400.

4. If the regulated consumer product is an aerosol product or a non-aerosol product containing LVP-VOC under sections 2(b) and 3(b) of this Part, LVP-VOC shall be determined according to the following steps:

(a) if the vapour pressure of a compound or mixture from product's formulation data is unknown, ASTM D86, ASTM D850, ASTM D1078, ASTM D2879 as modified in Appendix B of Method 310, ASTM D2887 and ASTM E1719 may be used to determine the LVP-VOC of the compound or mixture;

(b) a sample of the LVP-VOC used in the product's formulation shall be tested to determine the boiling point for a compound or for a mixture, and:

(i) if the boiling point exceeds 216°C, the compound or mixture is a LVP-VOC;

(ii) if the boiling point is equal to or less than 216°C, then the percent by weight of the mixture that boils above 216°C is a LVP-VOC;

(iii) the nearest 5% distillation cut that is greater than 216°C as determined under paragraph (a) shall be used to determine the percentage of the mixture qualifying as a LVP-VOC;

(c) if a product does not qualify as a LVP-VOC under paragraph (b), a sample of the compound or mixture used in a product's formulation shall be tested utilizing one or both of the following methods for identification of LVP-VOC compounds and mixtures: ASTM D2879 as modified in Appendix B of Method 310, and ASTM E1719, to determine if the compound or mixture meets the definition of LVP-VOC.

5. In the case of floor wax stripper referred to in item 2 of Part 3, the volatile organic compound content shall be calculated in accordance with the test method and equations referred to in sections 1, 2, 3 and 4 of this Part on the basis of the dilution ratio recommended on the products.

SCHEDULE 4

LITHOGRAPHIC HEATSET WEB PRINTING MACHINES: MEANING OF VOLATILE ORGANIC COMPOUND VerDate:01/04/2007

[section 2]

1. For the purposes of Part 5 of this Regulation, "volatile organic compound" means any volatile compound of carbon excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides, metallic carbonates, ammonium carbonate and exempt compounds.

2. In section 1, unless the context otherwise requires, "exempt compound" means any of the following compounds:

- (a) acetone;
- (b) 1-chloro-1,1-difluoroethane (HCFC-142b);
- (c) chlorodifluoromethane (HCFC-22);
- (d) 1-chloro-1-fluoroethane (HCFC-151a);
- (e) chlorofluoromethane (HCFC-31);
- (f) chloropentafluoroethane (CFC-115);
- (g) 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124);
- (h) cyclic, branched, or linear, completely fluorinated alkanes;
- (i) cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;
- (j) cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations;
- (k) cyclic, branched, or linear, completely methylated siloxanes (VMS);
- (l) 1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC-43-10mee);
- (m) dichlorodifluoromethane (CFC-12);
- (n) 1,1-dichloro-1-fluoroethane (HCFC-141b);
- (o) 3,3-dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca);
- (p) 1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb);
- (q) 1,2-dichloro-1,1,2,2-tetrafluoroethane (CFC-114);
- (r) 2,2-dichloro-1,1,1-trifluoroethane (HCFC-123);
- (s) 1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a);
- (t) 1,1-difluoroethane (HFC-152a);
- (u) difluoromethane (HFC-32);
- (v) 2-(difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane ((CF₃)₂CF₂OC₂H₅);
- (w) ethane;
- (x) 2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane ((CF₃)₂CF₂OC₂H₅);
- (y) 1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane (C₄F₉OC₂H₅);

- (z) ethylfluoride (HFC-161);
- (za) 1,1,1,2,3,3-hexafluoropropane (HFC-236ea);
- (zb) 1,1,1,3,3,3-hexafluoropropane (HFC-236fa);
- (zc) methyl acetate;
- (zd) methylene chloride (dichloromethane);
- (ze) 1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butane (C₄F₉OCH₃);
- (zf) parachlorobenzotrifluoride (PCBTF);
- (zg) 1,1,1,3,3-pentafluorobutane (HFC-365mfc);
- (zh) pentafluoroethane (HFC-125);
- (zi) 1,1,2,2,3-pentafluoropropane (HFC-245ca);
- (zj) 1,1,2,3,3-pentafluoropropane (HFC-245ea);
- (zk) 1,1,1,2,3-pentafluoropropane (HFC-245eb);
- (zl) 1,1,1,3,3-pentafluoropropane (HFC-245fa);
- (zm) perchloroethylene (tetrachloroethylene);
- (zn) sulphur-containing perfluorocarbons with no unsaturations and with sulphur bonds only to carbon and fluorine;
- (zo) 1,1,2,2-tetrafluoroethane (HFC-134);
- (zp) 1,1,1,2-tetrafluoroethane (HFC-134a);
- (zq) 1,1,1-trichloroethane (methyl chloroform);
- (zr) trichlorofluoromethane (CFC-11);
- (zs) 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113);
- (zt) 1,1,1-trifluoroethane (HFC-143a);
- (zu) trifluoromethane (HFC-23).

SCHEDULE 5
REGULATED VEHICLE REFINISHING PAINTS VerDate:01/01/2010

[sections 2 & 16D]

PART 1

DEFINITIONS

In this Schedule, unless the context otherwise requires:

“adhesion promoters” means coatings that are labelled and formulated to be applied to uncoated plastic surfaces to facilitate bonding of subsequent coatings, and on which subsequent coatings are applied;

“associated part and component”

(a) means a structure, device, piece, module, section, subassembly, or an assembly or element, of a motor vehicle or mobile equipment that:

- (i) is designed to be a part of the motor vehicle or mobile equipment; and
- (ii) is not attached to the motor vehicle or mobile equipment at the time of coating the structure, device, piece, module, section, subassembly, assembly or element; but

(b) does not include a circuit board;

“clear coatings” means coatings that:

- (a) contain no pigment; and
- (b) are labelled and formulated for application over clear coatings or colour coatings;

“coating component”

(a) means any portion of a coating, including but not limited to a reducer or thinner, toner, hardener, and additive, which is recommended by the manufacturer for use, or is used, in a coating; but

(b) does not include a raw material used to produce a component;

“colour coatings”

(a) means pigmented coatings (other than adhesion promoters, primers or multi-colour coatings) that:

- (i) require subsequent clear coatings; and
- (ii) are applied over adhesion promoters or primers; and

(b) includes metallic or iridescent colour coatings;

“metallic or iridescent colour coatings” means coatings that contain more than 5 g of metal or iridescent particles per litre as applied when tested by Method 311, and the particles are visible in the dried film;

“Method 24” means Method 24, “Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings” as adopted by US EPA;

“Method 311” means Method 311, “Analysis of Percent Metal in Metallic Coatings by Spectrographic Method” as adopted by the South Coast Air Quality Management District of California, United States;

“mobile equipment” means a device that may be drawn or driven on a railway, roadway, tramway or ropeway, including but not limited to trains, railcars, truck trailers, mobile cranes, bulldozers, street cleaners, trams, cable cars, and implements of husbandry or agriculture;

“multi-colour coatings” means coatings that:

- (a) exhibit more than one colour in the dried film after a single application;
- (b) are packaged in a single container;
- (c) hide surface defects on areas of heavy use; and
- (d) are applied over adhesion promoters or primers;

“other vehicle refinishing coatings” means any vehicle refinishing paints not otherwise listed in section 1 of Part 2;

“pre-treatment coatings” means coatings that:

- (a) contain not more than 16% solids by weight;
- (b) contain at least 0.5% acid by weight when tested by ASTM D1613;
- (c) are used to provide surface etching; and
- (d) are labelled and formulated for application directly to bare metal surfaces to provide corrosion resistance and adhesion;

“primers” means pigmented or non-pigmented coatings:

- (a) that are labelled and formulated for application to substrates to provide:
 - (i) a bond between the substrate and subsequent coats;
 - (ii) corrosion resistance;
 - (iii) a smooth substrate surface; or
 - (iv) resistance to penetration of subsequent coats; and
- (b) on which subsequent coatings are applied;

“single-stage coatings”

- (a) means pigmented coatings (other than primers or multi-colour coatings) that are labelled and formulated for application without subsequent clear coats; and
- (b) includes single-stage metallic or iridescent colour coatings;

“spot repair” means repair of an area on a motor vehicle, piece of mobile equipment, or associated part and component of less than 929 cm²;

“temporary protective coatings” means coatings that are labelled and formulated for the purpose of temporarily protecting areas from overspray or mechanical damage;

“textured and flexibilized coatings” means coatings that are labelled and formulated to be applied exclusively on a flexible plastic substrate or on the lower part of the body of a motor vehicle to provide textured or flexibilized effect on the substrate or part; (L.N. 192 of 2009)

“truck bed liner coatings” means coatings (other than colour coatings, multi-colour coatings, or single-stage coatings) that are labelled and formulated for application to truck beds to protect them from surface abrasion;

“underbody coatings” means coatings that are labelled and formulated for application to wheel wells, the inside of door panels or fenders, the underside of trunk or hoods, or the underside of motor vehicles;

“uniform finish coatings” means coatings that are labelled and formulated for application to the area around a spot repair for the purpose of blending a repaired area's colour or clear coat to match the appearance of an adjacent area's existing coating;

“vehicle refinishing paint” means a coating or coating component that is used or recommended on its packaging or container for use in the refinishing, service, maintenance, repair, restoration, or modification of a motor vehicle or mobile equipment, but does not include any of the following products:

- (a) a coating or coating component that is used or recommended on its packaging or container for use in the metal plating activities of a motor vehicle or mobile equipment;
- (b) an aerosol coating product;
- (c) a vehicle refinishing paint that is sold in a container of not more than 15 mL;

“volatile organic compound” means any volatile compound of carbon excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides, metallic carbonates and ammonium carbonate. (L.N. 192 of 2009)
(L.N. 192 of 2009)

PART 2

MAXIMUM LIMITS OF VOLATILE ORGANIC COMPOUND CONTENT FOR REGULATED VEHICLE REFINISHING PAINTS TO WHICH SECTION 16A OF THIS REGULATION APPLIES

1. The following maximum limits of volatile organic compound content, expressed as grams of volatile organic compounds per litre of coating and as determined under Part 3, are specified for the following regulated vehicle refinishing paints when in a ready to use condition:

Item	Regulated vehicle refinishing paints	Maximum limits of volatile organic compound content
1.	Adhesion promoters	840
2.	Clear coatings (non-matt finish)	420
3.	Clear coatings (matt finish)	840
4.	Colour coatings	420
5.	Multi-colour coatings	680
6.	Pre-treatment coatings	780
7.	Primers	540
8.	Single-stage coatings	420
9.	Temporary protective coatings	60
10.	Textured and flexibilized coatings	840
11.	Truck bed liner coatings	310
12.	Underbody coatings	430
13.	Uniform finish coatings	840

(L.N. 192 of 2009)

2. The following maximum limits of volatile organic compound content, expressed as grams of volatile organic compounds per litre of coating and as determined under Part 3, are specified for the following regulated vehicle refinishing paints when in a ready to use condition:

Item	Regulated vehicle refinishing paints	Maximum limits of volatile organic compound content
1.	Other vehicle refinishing coatings	250

PART 3

METHOD OF CALCULATING THE VOLATILE ORGANIC COMPOUND CONTENT OF REGULATED VEHICLE REFINISHING PAINTS

The volatile organic compound content of regulated vehicle refinishing paints in a ready to use condition must be calculated by the following formula:

$$\frac{W_a - W_b}{V_d - V_e}$$

 $V_d - V_e$

Where:

W_a represents the weight of volatile matters in grams as determined by Method 24;

W_b represents the weight of water in grams as determined by Method 24;

V_d represents the volume of material in litres as determined by Method 24;

V_e represents the volume of water in litres, calculated by dividing the weight of water as determined by Method 24 by the density of water.

(L.N. 107 of 2009)

(Schedule 5 added L.N. 107 of 2009)

SCHEDULE 6
REGULATED VESSEL PAINTS AND REGULATED PLEASURE CRAFT PAINTS
VerDate:01/01/2010

[sections 2, 16E, 16F, 16G & 16H]

PART 1

DEFINITIONS

In this Schedule, unless the context otherwise requires:

“antenna coatings” means coatings that are applied to equipment and associated structural appurtenances used to receive or transmit electromagnetic signals;

“antifouling coatings” in relation to:

(a) a vessel paint, means coatings that are applied to the underwater portion of a vessel to prevent or reduce the attachment of biological organisms, but does not include antifouling sealer coatings;

(b) a pleasure craft paint, means coatings that are applied to the underwater portion of a pleasure craft to prevent or reduce the attachment of biological organisms, but does not include antifouling sealer coatings and self-polishing copolymer antifouling coatings;

“antifouling coatings for aluminium substrates” means antifouling coatings that are applied to aluminium substrates;

“antifouling coatings for other substrates” means antifouling coatings that are applied to any substrates other than aluminium substrates;

“antifouling sealer coatings” means coatings that are applied over biocidal antifouling coatings for the purpose of preventing release of biocides into the environment, or coatings that are applied to promote adhesion between antifouling coatings and underlying coatings;

“clear wood finishes” means clear or semi-transparent topcoats that are applied to wood substrates to provide a transparent or translucent film;

“elastomeric adhesives” means adhesives that contain 15% or more by weight natural or synthetic rubber;

“exempt compound” means any of the following compounds:

- (a) acetone;
- (b) ethane;
- (c) methyl acetate;

- (d) parachlorobenzotrifluoride (PCBTF);
- (e) perchloroethylene (tetrachloroethylene);
- (f) 1,1,1-trichloroethane (methyl chloroform);
- (g) trichlorofluoromethane (CFC-11);
- (h) dichlorodifluoromethane (CFC-12);
- (i) 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113);
- (j) 1,2-dichloro-1,1,2,2-tetrafluoroethane (CFC-114);
- (k) chloropentafluoroethane (CFC-115);
- (l) chlorodifluoromethane (HCFC-22);
- (m) chlorofluoromethane (HCFC-31);
- (n) 2,2-dichloro-1,1,1-trifluoroethane (HCFC-123);
- (o) 1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a);
- (p) 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124);
- (q) 1,1-dichloro-1-fluoroethane (HCFC-141b);
- (r) 1-chloro-1,1-difluoroethane (HCFC-142b);
- (s) 1-chloro-1-fluoroethane (HCFC-151a);
- (t) 3,3-dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca);
- (u) 1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb);
- (v) methylene chloride (dichloromethane);
- (w) trifluoromethane (HFC-23);
- (x) difluoromethane (HFC-32);
- (y) 1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC-43-10mee);
- (z) pentafluoroethane (HFC-125);
- (za) 1,1,2,2-tetrafluoroethane (HFC-134);
- (zb) 1,1,1,2-tetrafluoroethane (HFC-134a);
- (zc) 1,1,1-trifluoroethane (HFC-143a);

- (zd) 1,1-difluoroethane (HFC-152a);
- (ze) ethylfluoride (HFC-161);
- (zf) 1,1,1,2,3,3-hexafluoropropane (HFC-236ea);
- (zg) 1,1,1,3,3,3-hexafluoropropane (HFC-236fa);
- (zh) 1,1,2,2,3-pentafluoropropane (HFC-245ca);
- (zi) 1,1,2,3,3-pentafluoropropane (HFC-245ea);
- (zj) 1,1,1,3,3-pentafluoropropane (HFC-245fa);
- (zk) 1,1,1,2,3-pentafluoropropane (HFC-245eb);
- (zl) 1,1,1,3,3-pentafluorobutane (HFC-365mfc);
- (zm) cyclic, branched, or linear, completely methylated siloxanes (VMS);
- (zn) cyclic, branched, or linear, completely fluorinated alkanes;
- (zo) cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;
- (zp) cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations;
- (zq) sulphur-containing perfluorocarbons with no unsaturations and with sulphur bonds only to carbon and fluorine;
- (zr) 1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butane (C₄F₉OCH₃ or HFE-7100);
- (zs) 1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane (C₄F₉OC₂H₅ or HFE-7200);
- (zt) 2-(difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane [(CF₃)₂CF₂CF₂OCH₃];
- (zu) 2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane [(CF₃)₂CF₂CF₂OC₂H₅];

“extreme high gloss coatings” means coatings that achieve at least 95% reflectance on a 60-degree meter when tested by ASTM D523;

“finish primers and surfacers” means coatings that are applied with a wet film thickness of less than 0.25 mm prior to the application of a topcoat to provide corrosion resistance, adhesion of subsequent coatings, or a moisture barrier, or to promote a uniform surface necessary for filling in surface imperfections;

“heat resistant coatings” means coatings that are capable of withstanding temperatures of at least 204°C during normal use;

“high build primers and surfacers” means coatings that are applied with a wet film thickness of 0.25 mm or more prior to the application of a topcoat to provide corrosion resistance, adhesion of subsequent

coatings, or a moisture barrier, or to promote a uniform surface necessary for filling in surface imperfections;

“high gloss coatings” means coatings that achieve at least 85% reflectance on a 60-degree meter when tested by ASTM D523;

“high temperature coatings” means coatings that are capable of withstanding temperatures of at least 426°C;

“inorganic zinc coatings” means coatings that derive from zinc dust incorporated into an inorganic silicate binder to provide corrosion protection;

“low activation interior coatings” means coatings that are used on interior surfaces aboard vessels to minimize the activation of pigments on painted surfaces within a radiation environment;

“marine maintenance coatings” means one-component finish coatings that dry by solvent evaporation or oxidation and have a high performance with chemical, water, weather or sunlight resistance, but does not include heat resistant coatings;

“metallic heat resistant coatings” means coatings that:

(a) when tested by Method 311, contain more than 5 g of metal particles per litre of coating in a ready to use condition; and

(b) are capable of withstanding temperatures of at least 80°C;

“Method 24” means Method 24, “Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings”, as adopted by US EPA;

“Method 303” means Method 303, “Determination of Exempt Compounds”, as adopted by the South Coast Air Quality Management District of California, United States;

“Method 311” means Method 311, “Analysis of Percent Metal in Metallic Coatings by Spectrographic Method”, as adopted by the South Coast Air Quality Management District of California, United States;

“navigational aids coatings” means coatings that are labelled and formulated for application to buoys or other governmental waterway markers;

“other pleasure craft coatings” means any pleasure craft paints not otherwise listed in section 1 of Part 4 or Part 5;

“other vessel coatings” means any vessel paints not otherwise listed in section 1 of Part 2 or Part 3;

“pleasure craft”:

(a) means a vessel that is:

(i) primarily used for the purpose of sport or recreation;

and

(ii) intended for use in the marine environment; and

(b) includes its appurtenances;

“pleasure craft paint” means a coating (other than an unsaturated polyester resin (fibreglass) coating) that is applied to a pleasure craft, but does not include any of the following products:

- (a) an aerosol coating product;
- (b) a touch-up coating;

“pre-treatment primers” means coatings that contain special adhesion promoters to provide adhesion to aluminium, galvanized and stainless steel when roughening of surface is not possible;

“pre-treatment wash primers” in relation to:

(a) a vessel paint, means coatings that:

- (i) contain at least 0.5% acid by weight when tested by ASTM D1613;
- (ii) are used to provide surface etching; and
- (iii) are applied directly to metal surfaces to provide corrosion resistance, adhesion, and ease of stripping;

(b) a pleasure craft paint, means coatings that:

- (i) contain not more than 12% solids by weight;
- (ii) contain at least 0.5% acid by weight when tested by ASTM D1613;
- (iii) are used to provide surface etching; and
- (iv) are applied directly to fibreglass and metal surfaces to provide corrosion resistance and adhesion of subsequent coatings;

“repair and maintenance thermoplastic coatings” means resin-bearing coatings, such as vinyl, chlorinated rubber, or bituminous coatings, in which the resin becomes pliable with the application of heat, and which are used to recoat portions of a previously coated substrate which has sustained damage to the coating following normal coating operation;

“sealant coatings for wire-sprayed aluminium” means epoxy coatings that:

- (a) are of up to 0.025 mm in thickness and used on wire-sprayed aluminium surfaces; and
- (b) must be reduced with an equal part of an appropriate solvent for application on wire-sprayed aluminium surfaces;

“sealers” means low viscosity coatings that are applied to bare wood to seal surface pores to prevent subsequent coatings from being absorbed into the wood;

“self-polishing copolymer antifouling coatings” means antifouling coatings that hydrolyse and smooth at the surface when submerged in water to ensure a constant and controlled release of biocides;

“shop primers” means coatings that are applied to steel surface at a dry film thickness of less than 0.25 mm for a temporary corrosion protection before assembly and the application of a full paint system;

“special marking coatings” means coatings that are used for flight decks, ships' numbers, and other items with safety or identification functions;

“tack coatings” means epoxy coatings of up to 0.051 mm (dry) that are applied to allow adhesion of subsequent coatings during the coating process where existing epoxy coatings have aged beyond the time limit specified by the manufacturer for the application of the next coat;

“tank lining coatings” means coatings that are applied to the interior of chemicals, fuel or water storage tanks to enhance resistance on fluids stored and to provide corrosion resistance;

“teak primers” means coatings that are applied to teak or previously oiled decks to improve adhesion of a seam sealer to wood;

“topcoats” means final coatings that are applied to the interior or exterior of a pleasure craft;

“touch-up coating” means a coating that is used to cover minor imperfections prior to shipment appearing after the main coating operation;

“undersea weapons system coatings” means coatings that are applied to components of a weapons system that is launched or fired underwater;

“varnishes” means clear wood topcoats formulated with various resins that dry by chemical reaction on exposure to air;

“vessel”:

(a) means a ship, boat, buoy, or an oil drilling rig, that is intended for use in the marine environment; and

(b) includes the appurtenances of the ship, boat, buoy or oil drilling rig; but

(c) does not include a pleasure craft;

“vessel paint” means a coating (other than an unsaturated polyester resin (fibreglass) coating) that is applied to a vessel, but does not include any of the following products:

(a) an antifouling coating that is applied to an aluminium hull;

(b) an aerosol coating product;

(c) a marine coating that is applied to an interior surface of a potable water receptacle;

(d) a touch-up coating;

“volatile organic compound” means any volatile compound of carbon excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides, metallic carbonates, ammonium carbonate and exempt compounds;

“wire-sprayed aluminium” means a molten aluminium coating that is applied to a steel substrate by using oxygen fuelled combustion spray methods.

PART 2

MAXIMUM LIMITS OF VOLATILE ORGANIC COMPOUND CONTENT FOR REGULATED VESSEL PAINTS TO WHICH SECTION 16E(1) OF THIS REGULATION APPLIES

1. The following maximum limits of volatile organic compound content, expressed as grams of volatile organic compounds per litre of coating and as determined under Part 6, are specified for the following regulated vessel paints when in a ready to use condition:

Item	Regulated vessel paints	Maximum limits of volatile organic compound content
1.	Antenna coatings	530
2.	Elastomeric adhesives	730
3.	Extreme high gloss coatings	490
4.	Heat resistant coatings	420
5.	High gloss coatings	340
6.	High temperature coatings	500
7.	Inorganic zinc coatings	650
8.	Low activation interior coatings	420
9.	Marine maintenance coatings	450
10.	Metallic heat resistant coatings	530
11.	Navigational aids coatings	340
12.	Pre-treatment primers	550
13.	Pre-treatment wash primers	780
14.	Repair and maintenance thermoplastic coatings	550
15.	Sealant coatings for wire-sprayed aluminium	610
16.	Shop primers	700
17.	Special marking coatings	490
18.	Tack coatings	610
19.	Tank lining coatings	500
20.	Undersea weapons system coatings	340

2. The following maximum limits of volatile organic compound content, expressed as grams of volatile organic compounds per litre of coating and as determined under Part 6, are specified for the following regulated vessel paints when in a ready to use condition:

Item	Regulated vessel paints	Maximum limits of volatile organic compound content
1.	Other vessel coatings	340

PART 3

MAXIMUM LIMITS OF VOLATILE ORGANIC COMPOUND CONTENT FOR REGULATED VESSEL PAINTS TO WHICH SECTION 16E(2) OF THIS REGULATION APPLIES

The following maximum limits of volatile organic compound content, expressed as grams of volatile organic compounds per litre of coating and as determined under Part 6, are specified for the following regulated vessel paints when in a ready to use condition:

Item	Regulated vessel paints	Maximum limits of volatile organic compound content
1.	Antifouling coatings	400
2.	Antifouling sealer coatings	420

PART 4

MAXIMUM LIMITS OF VOLATILE ORGANIC COMPOUND CONTENT FOR REGULATED PLEASURE CRAFT PAINTS TO WHICH SECTION 16E(3) OF THIS REGULATION APPLIES

1. The following maximum limits of volatile organic compound content, expressed as grams of volatile organic compounds per litre of coating and as determined under Part 6, are specified for the following regulated pleasure craft paints when in a ready to use condition:

Item	Regulated pleasure craft paints	Maximum limits of volatile organic compound content
1.	Clear wood finishes: sealers	550
2.	Clear wood finishes: varnishes	490
3.	Finish primers and surfacers	600
4.	High build primers and surfacers	340
5.	Pre-treatment wash primers	780
6.	Teak primers	775
7.	Topcoats: extreme high gloss coatings	600
8.	Topcoats: high gloss coatings	420

2. The following maximum limits of volatile organic compound content, expressed as grams of volatile organic compounds per litre of coating and as determined under Part 6, are specified for the following regulated pleasure craft paints when in a ready to use condition:

Item	Regulated pleasure craft paints	Maximum limits of volatile organic compound content
1.	Other pleasure craft coatings	420

PART 5

MAXIMUM LIMITS OF VOLATILE ORGANIC COMPOUND CONTENT FOR REGULATED PLEASURE CRAFT PAINTS TO WHICH SECTION 16E(4) OF THIS REGULATION APPLIES

The following maximum limits of volatile organic compound content, expressed as grams of volatile organic compounds per litre of coating and as determined under Part 6, are specified for the following regulated pleasure craft paints when in a ready to use condition:

Item	Regulated pleasure craft paints	Maximum limits of volatile organic compound content
1.	Antifouling coatings for aluminium substrates	560
2.	Antifouling coatings for other substrates	330
3.	Antifouling sealer coatings	420
4.	Self-polishing copolymer antifouling coatings	400

PART 6

METHOD OF CALCULATING THE VOLATILE ORGANIC COMPOUND CONTENT OF REGULATED VESSEL PAINTS AND REGULATED PLEASURE CRAFT PAINTS

The volatile organic compound content of regulated vessel paints and regulated pleasure craft paints in a ready to use condition must be calculated by the following formula:

$$W_a - W_b - W_c$$

$$V_d - V_e - V_f$$

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Where:

W_a represents the weight of volatile matters in grams as determined by Method 24;

W_b represents the weight of water in grams as determined by Method 24;

W_c represents the weight of exempt compounds in grams as determined by Method 303;

V_d represents the volume of material in litres as determined by Method 24;

V_e represents the volume of water in litres, calculated by dividing the weight of water as determined by Method 24 by the density of water;

V_f represents the sum of volumes of all individual exempt compounds in litres, where the volume of each individual exempt compound is calculated by dividing the weight of the compound as determined by method 303 by the density of the compound.

(Schedule 6 added L.N. 107 of 2009)

SCHEDULE 7
REGULATED ADHESIVES AND REGULATED SEALANTS VerDate:01/01/2010

[sections 2, 16I & 16L]

PART 1

DEFINITIONS

In this Schedule, unless the context otherwise requires:

“ABS” means acrylonitrile-butadiene-styrene that is a plastic made by reacting monomers of acrylonitrile, butadiene and styrene and the product of which is normally identified with an ABS marking;

“ABS welding adhesives” means adhesives that are used to weld products made of ABS;

“adhesive”:

- (a) means a substance that is used to bond one surface to another surface by attachment; and
- (b) includes an adhesive bonding primer, adhesive primer and any other primer; but
- (c) does not include:
 - (i) any of the following adhesives:
 - (A) an aerosol adhesive;
 - (B) a cyanoacrylate adhesive;
 - (C) a light curable adhesive with a volatile organic compound content of not more than 50 g per litre of adhesive less water and less exempt compounds in a ready to use condition;
 - (D) a screen printing adhesive;
 - (ii) an adhesive that is recommended on its packaging or container by its manufacturer for use exclusively:
 - (A) in aerospace components;
 - (B) in fabricating orthoses and prosthetics under a medical practitioner's prescription;
 - (C) in research and development programmes and quality assurance laboratories;
 - (D) in shoe, luggage or handbag repair;
 - (E) in solvent welding operations in manufacturing medical devices;
 - (F) in thin metal laminating operations, provided that the adhesive contains not more than 780 g of volatile organic compound per litre of adhesive less water and less exempt compounds in a ready to use condition;
 - (G) in tyre repair;
 - (H) on humans or animals;

“adhesive bonding primers” means adhesives that are applied to a surface to improve the bond of subsequent adhesives and sometimes to inhibit corrosion;

“adhesive primers” means materials that are, prior to applying an adhesive, applied to a substrate to provide a bonding surface, but does not include adhesive primers that are used exclusively in curtain walls or exterior window glazing in buildings;

“adhesive primers for plastic” means adhesive primers that are applied to plastic substrates;

“adhesive primers for traffic marking tape” means adhesive primers that are applied to surfaces on which traffic marking tape is to be installed;

“adhesives for fiberglass” means adhesives that are applied to fiberglass substrates, and do not belong to any type of products specified in Part 2, section 1 of Part 3 or Part 4;

“adhesives for metal” means adhesives that are applied to metal substrates, and do not belong to any type of products specified in Part 2, section 1 of Part 3 or Part 4;

“adhesives for plastic foams” means adhesives that are applied to plastic foam substrates, and do not belong to any type of products specified in Part 2, section 1 of Part 3 or Part 4;

“adhesives for porous material” means adhesives that are applied to substrates made of porous material (except wood and plastic foam), and do not belong to any type of products specified in Part 2, section 1 of Part 3 or Part 4;

“adhesives for wood” means adhesives that are applied to wood substrates, and do not belong to any type of products specified in Part 2, section 1 of Part 3 or Part 4;

“aerosol adhesives” means adhesives that are packaged as an aerosol product in which the spray mechanism is permanently housed in a non-refillable can designed for hand-held application without the need for ancillary hoses or spray equipment;

“aerospace component”:

(a) means a fabricated part, the assembly of parts, or a completed unit of an aircraft or a spacecraft (excluding tyres); and

(b) includes the model, mock-up, prototype and test coupon of an aircraft or a spacecraft;

“carpet pad adhesives” means adhesives that are used for installing a carpet pad beneath a carpet;

“ceramic tile adhesives” means adhesives that are used for installing ceramic tile products;

“clear paintable water resistant caulking compounds” means compounds that contain no appreciable level of opaque fillers or pigments, transmit most or all visible light through the caulk when cured, are paintable, and are immediately resistant to precipitation upon application;

“coating material” means a layer of material applied on a substrate that forms a film;

“computer diskette manufacturing adhesives” means adhesives that are used in a process where the fold-over flaps are glued to the body of a vinyl jacket;

“contact adhesives” means adhesives that are applied to 2 separate surfaces, allowed to dry, and brought together for adhesion and bonding with subsequent pressure;

“cove base adhesives” means adhesives that are used during the installation of cove base or wall base, which is generally made of vinyl or rubber, on a wall or vertical surface at floor level;

“CPVC” means chlorinated polyvinyl chloride that is a polymer of the chlorinated polyvinyl monomer containing 67% chlorine and the product of which is normally identified with a CPVC marking;

“CPVC welding adhesives” means adhesives that are used to weld products made of CPVC;

“cyanoacrylate adhesives” means single-component reactive diluent adhesives that contain at least 85% by weight ethyl, methyl, methoxymethyl or other functional groupings of cyanoacrylate;

“dry wall and panel adhesives” means adhesives that are used for installing plywood, pre-decorated hardboard (or tile board), fibreglass reinforced plastic, similar pre-decorated or non-decorated panels, or gypsum dry wall to studs or solid surfaces;

“exempt compound”:

(a) in relation to a portable sealant or caulking compound, has the meaning given by Part 6 of Schedule 3; and

(b) in relation to a regulated adhesive and any other regulated sealants, means any of the following compounds:

- (i) acetone;
- (ii) ethane;
- (iii) methyl acetate;
- (iv) parachlorobenzotrifluoride (PCBTF);
- (v) perchloroethylene (tetrachloroethylene);
- (vi) 1,1,1-trichloroethane (methyl chloroform);
- (vii) trichlorofluoromethane (CFC-11);
- (viii) dichlorodifluoromethane (CFC-12);
- (ix) 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113);
- (x) 1,2-dichloro-1,1,2,2-tetrafluoroethane (CFC-114);
- (xi) chloropentafluoroethane (CFC-115);
- (xii) chlorodifluoromethane (HCFC-22);
- (xiii) chlorofluoromethane (HCFC-31);
- (xiv) 2,2-dichloro-1,1,1-trifluoroethane (HCFC-123);
- (xv) 1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a);
- (xvi) 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124);

- (xvii) 1,1-dichloro-1-fluoroethane (HCFC-141b);
- (xviii) 1-chloro-1,1-difluoroethane (HCFC-142b);
- (xix) 1-chloro-1-fluoroethane (HCFC-151a);
- (xx) 3,3-dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca);
- (xxi) 1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb);
- (xxii) methylene chloride (dichloromethane);
- (xxiii) trifluoromethane (HFC-23);
- (xxiv) difluoromethane (HFC-32);
- (xxv) 1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC-43-10mee);
- (xxvi) pentafluoroethane (HFC-125);
- (xxvii) 1,1,2,2-tetrafluoroethane (HFC-134);
- (xxviii) 1,1,1,2-tetrafluoroethane (HFC-134a);
- (xxix) 1,1,1-trifluoroethane (HFC-143a);
- (xxx) 1,1-difluoroethane (HFC-152a);
- (xxxi) ethylfluoride (HFC-161);
- (xxxii) 1,1,1,2,3,3-hexafluoropropane (HFC-236ea);
- (xxxiii) 1,1,1,3,3,3-hexafluoropropane (HFC-236fa);
- (xxxiv) 1,1,2,2,3-pentafluoropropane (HFC-245ca);
- (xxxv) 1,1,2,3,3-pentafluoropropane (HFC-245ea);
- (xxxvi) 1,1,1,3,3-pentafluoropropane (HFC-245fa);
- (xxxvii) 1,1,1,2,3-pentafluoropropane (HFC-245eb);
- (xxxviii) 1,1,1,3,3-pentafluorobutane (HFC-365mfc);
- (xxxix) cyclic, branched, or linear, completely methylated siloxanes (VMS);
- (xl) cyclic, branched, or linear, completely fluorinated alkanes;
- (xli) cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;

(xlii) cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations;

(xliii) sulphur-containing perfluorocarbons with no unsaturations and with sulphur bonds only to carbon and fluorine;

(xliv) 1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butane (C₄F₉OCH₃ or HFE-7100);

(xlv) 1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane (C₄F₉OC₂H₅ or HFE-7200);

(xlvi) 2-(difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane [(CF₃)₂CF₂OC₂H₅];

(xlvii) 2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane [(CF₃)₂CF₂OC₂H₅];

“fabric coating” means a decorative or protective coating material or reinforcing material that is applied on or impregnated into textile fabric, vinyl coated textile fabric, or vinyl sheets;

“film coating”:

(a) means a coating material that is applied in a web coating process on any film substrate other than paper or fabric, including but not limited to typewriter ribbon, photographic film, magnetic tape, and metal foil gift wrap; but

(b) does not include a coating material that is applied to packaging used exclusively for food and health-care products for human or animal consumption;

“floor seam sealers” means products that are designed and labelled exclusively for bonding, fusing, or sealing seams between adjoining rolls of installed flexible sheet flooring;

“graphic arts adhesives” means adhesives that are used in a gravure, letterpress, flexographic, or lithographic printing operation, or used in a related coating or laminating operation, such as in the binding or laminating of magazines, books, or other printed materials;

“indoor carpet adhesives” means adhesives that are used during the installation of a carpet that is in an enclosure and is not exposed to ambient weather conditions during normal use;

“laminating operation” means a process where 2 or more layers of material are composed to form a single, multiple-layer sheet by using an adhesive;

“light curable adhesives” means single-component reactive adhesives that cure upon exposure to visible-light, ultra-violet light or to an electron beam;

“light curable sealants” means single-component reactive sealants that cure upon exposure to visible-light, ultra-violet light or to an electron beam;

“low-solids” means having not more than 120 g of solids per litre of material;

“marine deck sealant primers” means sealant primers that are applied to wooden marine decks;

“marine deck sealants” means sealants that are applied to wooden marine decks;

“Method 24” means Method 24, “Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings”, as adopted by US EPA;

“Method 303” means Method 303, “Determination of Exempt Compounds”, as adopted by the South Coast Air Quality Management District of California, United States;

“Method 316A” means Method 316A, “Determination of Volatile Organic Compounds in Materials used for Pipes and Fittings”, as adopted by the South Coast Air Quality Management District of California, United States;

“modified bituminous sealant primers” means sealant primers that consist of bituminous materials and high flash solvents, and are used to prepare a surface by:

- (a) improving the adhesion; and
- (b) absorbing dust from the surface for adhesive, or flashing cement bitumen membrane;

“multi-purpose construction adhesives” means adhesives that are used to install or repair various construction materials, including but not limited to dry wall, subfloor, panel, fibreglass reinforced plastic, ceiling tile, and acoustical tile;

“non-membrane roof sealants” means sealants that are used to install or repair non-membrane roofs, and includes plastic or asphalt roof cement, asphalt roof coatings and cold application cement;

“other adhesives” means any adhesives not otherwise listed in Part 2, section 1 or 2 of Part 3 or Part 4;

“other sealant primers” means any sealant primers not otherwise listed in section 1 or 3 of Part 5;

“other sealants” means any sealants (except sealant primers) not otherwise listed in section 1 or 3 of Part 5;

“outdoor carpet adhesives” means adhesives that are used during the installation of a carpet that is not in an enclosure and is exposed to ambient weather conditions during normal use;

“paper coating” means a coating material that is applied on or impregnated into paper, including but not limited to adhesive tapes and labels, book covers, postcards, office copier paper, drafting paper, and pressure sensitive tapes;

“paper, fabric and film coating adhesives” means adhesives that are used in a paper coating, fabric coating, or film coating application process where a layer of adhesive is applied or cured to paper, fabric, or film substrate that forms a film on a coating line; and a coating line includes a coating applicator, heating or drying oven, dryer and any other equipment where emissions of volatile organic compounds occur;

“plastic cement welding adhesives” means adhesives made of resins and solvents that are used to dissolve the surfaces of plastic (other than ABS, CPVC, and PVC) to form a bond between mating surfaces;

“porous material”:

- (a) means a substance that has tiny openings, often microscopic, in which fluids may be absorbed or discharged; and

(b) includes, but is not limited to, wood, fabric, paper, corrugated paperboard and plastic foam;

“portable sealant or caulking compound” means a portable sealant, but does not include any of the following products:

(a) a product that is incorporated into or used exclusively in manufacture or construction of goods or commodities at the site of the establishment;

(b) a unit of product, less packaging, which weighs more than 453 g or consists of more than 473 mL;

(c) a roof cement and roof sealant;

(d) an insulating foam;

(e) a removable caulking compound;

(f) a clear paintable water resistant caulking compound;

(g) a floor seam sealer;

(h) a sealant primer;

(i) a product designed exclusively for vehicle uses;

“primer” means a material that is applied to a substrate to improve adhesion of subsequently applied adhesives;

“PVC” means polyvinyl chloride that is a polymer of the chlorinated vinyl monomer containing 57% chlorine;

“PVC welding adhesives” means adhesives that are used to weld products made of PVC;

“removable caulking compounds” means compounds that temporarily seal windows or doors for a 3 to 6-month time interval;

“roadway sealants” means sealants that are applied to public streets, highways and other surfaces, including but not limited to curbs, berms, driveways and parking lots;

“rubber flooring adhesives” means adhesives that are used to install flooring material in which both the back and top surfaces are made of synthetic rubber, and which may be in sheet or tile form;

“screen printing adhesives” means adhesives that are used in screen printing, which is a printing process in which adhesives are passed through a taut web or fabric to which a refined form of stencil has been applied;

“sealant”:

(a) means a material with adhesive properties that is formulated primarily to fill, seal, waterproof or weatherproof gaps or joints between 2 surfaces; and

- (b) includes a sealant primer and caulk; but
- (c) does not include:
 - (i) a sealant that is recommended on its packaging or container by its manufacturer for use exclusively:
 - (A) in aerospace components;
 - (B) in research and development programmes and quality assurance laboratories;
 - (C) in solvent welding operations in manufacturing medical devices;
 - (D) as a light curable sealant with a volatile organic compound content of not more than 50 g per litre of sealant less water and less exempt compounds in a ready to use condition;
 - (E) on humans or animals;
 - (ii) a sealer that is applied as a continuous coating;

“sealant primers” means products that are, prior to applying a sealant, applied to a substrate to enhance a bonding surface, but does not include sealant primers that are used exclusively in curtain walls or exterior window glazing in buildings;

“sheet-applied rubber lining operation adhesives” means adhesives that are used in a sheet-applied rubber lining operation, which:

- (a) means the hand application of sheet rubber lining to metal or plastic substrates to protect the underlying substrate from corrosion or abrasion; and

- (b) includes laminating sheet rubber to fabric;

“single-ply roof membrane adhesives” means adhesives that are used to install or repair single-ply roof membrane and the installation includes, but is not limited to, attaching the edge of the membrane to the edge of the roof and applying flashings to vents, pipes or ducts that protrude through the membrane;

“single-ply roof membrane sealants” means sealants that are used to install or repair single-ply roof membrane and the installation includes, but is not limited to, attaching the edge of the membrane to the edge of the roof and applying flashings to vents, pipes or ducts that protrude through the membrane;

“solvent welding operation” means a process of softening the surfaces of 2 substrates by wetting them with solvents or adhesives or both, and joining them together through a chemical or physical reaction or both to form a fused union;

“special purpose contact adhesives” means contact adhesives that are used to bond any of the following substrates to any surface: melamine covered board, metal, unsupported vinyl, Teflon, ultra-high molecular weight polyethylene, rubber and wood veneer in thickness of not more than 1.6 mm;

“structural glazing adhesives” means adhesives that are used to adhere glass, ceramic, metal, stone, or composite panels to exterior building frames;

“structural wood member adhesives” means adhesives that are used to construct load bearing joints in wooden joists, trusses or beams;

“subfloor adhesives” means adhesives that are used to install subflooring material over floor joists;

“thin metal laminating operation” means a process of bonding multiple layers of metal to metal or metal to plastic in the production of electronic or magnetic components in which the thickness of the bond line is less than 6.35 micrometres;

“top and trim adhesives” means adhesives that are used during the installation of vehicle and vessel trim, including but not limited to the headliners, vinyl tops, vinyl trim, sunroofs, dash covering, door covering, floor covering, panel covering and upholstery;

“traffic marking tape” means a preformed reflective that is applied to public streets, highways and other surfaces, including but not limited to curbs, berms, driveways and parking lots;

“tyre retread adhesives” means adhesives that are applied to the back of precured tread rubber and to the casing and cushion rubber, or are used to seal buffed tyre casings to prevent oxidation while the tyre is being prepared for a new tread;

“VCT” means vinyl composition tile that is a material made from thermoplastic resins, fillers and pigments;

“volatile organic compound” means any volatile compound of carbon excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides, metallic carbonates, ammonium carbonate and exempt compounds;

“wood flat stock adhesives”:

(a) means adhesives that are used for manufacturing interior wood panels and exterior wood siding; and

(b) includes, but is not limited to, redwood, cedar or plywood stocks, plywood panels, chipboards, composition hardboards, and any other panels or siding constructed of solid wood or a wood-containing product; but

(c) does not include adhesives that are used in laminating fibreglass, metal, or plastic sheets to wood panels;

“wood flooring adhesives” means adhesives that are used to install a wood floor surface, which may be in the form of parquet tiles, wood planks, or strip-wood.

PART 2

MAXIMUM LIMITS OF VOLATILE ORGANIC COMPOUND CONTENT FOR REGULATED ADHESIVES TO WHICH SECTION 16I(1) OF THIS REGULATION APPLIES

The following maximum limits of volatile organic compound content, expressed as grams of volatile organic compounds per litre of adhesive and as determined under Part 6, are specified for the following regulated adhesives when in a ready to use condition:

Item	Regulated adhesives	Maximum limits of volatile organic compound content
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1.	Contact adhesives	250
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PART 3

MAXIMUM LIMITS OF VOLATILE ORGANIC COMPOUND CONTENT FOR REGULATED ADHESIVES TO WHICH SECTION 16I(2) OF THIS REGULATION APPLIES

1. The following maximum limits of volatile organic compound content, expressed as grams of volatile organic compounds per litre of adhesive and as determined under Part 6, are specified for the following regulated adhesives when in a ready to use condition:

Item	Regulated adhesives	Maximum limits of volatile organic compound content
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	Architectural applications	
1.	Carpet pad adhesives	50
2.	Ceramic tile adhesives	65
3.	Cove base adhesives	50
4.	Dry wall and panel adhesives	50
5.	Indoor carpet adhesives	50
6.	Multi-purpose construction adhesives	70
7.	Outdoor carpet adhesives	150
8.	Rubber flooring adhesives	60
9.	Single-ply roof membrane adhesives	250
10.	Structural glazing adhesives	100
11.	Subfloor adhesives	50
12.	VCT and asphalt tile adhesives	50
13.	Wood flooring adhesives	100
	Specialty applications	
14.	ABS welding adhesives	325
15.	Adhesive primers for plastic	550
16.	Adhesive primers for traffic marking tape	150
17.	Computer diskette manufacturing adhesives	350
18.	CPVC welding adhesives	490
19.	Graphic arts adhesives	150
20.	Paper, fabric and film coating adhesives	265
21.	Plastic cement welding adhesives	250
22.	PVC welding adhesives	510
23.	Sheet-applied rubber lining operation adhesives	850
24.	Special purpose contact adhesives	250
25.	Structural wood member adhesives	140
26.	Top and trim adhesives	250
27.	Tyre retread adhesives	100
28.	Wood flat stock adhesives	250

2. Subject to section 3, the following maximum limits of volatile organic compound content, expressed as grams of volatile organic compounds per litre of adhesive and as determined under Part 6, are specified

for the following substrate specific types of regulated adhesives (not being regulated adhesives specified in section 1 or Part 2 or 4) when in a ready to use condition:

Item	Regulated adhesives	Maximum limits of volatile organic compound content
1.	Adhesives for fibreglass	80
2.	Adhesives for metal	30
3.	Adhesives for plastic foams	50
4.	Adhesives for porous material	50
5.	Adhesives for wood	30

3. If any representation is made anywhere on the container of a regulated adhesive listed in section 2 or in any documentation relating to the adhesive supplied by its manufacturer or importer that the adhesive may be applied to bond together 2 or more different substrates specified in section 2, the prescribed limit for the adhesive is to be the highest of those maximum limits of volatile organic compound content specified for adhesives applied to those substrates respectively.

4. The following maximum limits of volatile organic compound content, expressed as grams of volatile organic compounds per litre of adhesive and as determined under Part 6, are specified for the following regulated adhesives when in a ready to use condition:

Item	Regulated adhesives	Maximum limits of volatile organic compound content
1.	Other adhesives	250

PART 4

MAXIMUM LIMITS OF VOLATILE ORGANIC COMPOUND CONTENT FOR REGULATED ADHESIVES TO WHICH SECTION 16I(3) OF THIS REGULATION APPLIES

The following maximum limits of volatile organic compound content, expressed as grams of volatile organic compounds per litre of adhesive and as determined under Part 6, are specified for the following regulated adhesives when in a ready to use condition:

Item	Regulated adhesives	Maximum limits of volatile organic compound content
1.	Contact adhesives	80

PART 5

MAXIMUM LIMITS OF VOLATILE ORGANIC COMPOUND CONTENT FOR REGULATED SEALANTS TO WHICH SECTION 16I(4) OF THIS REGULATION APPLIES

1. The following maximum limits of volatile organic compound content, expressed as grams of volatile organic compounds per litre of sealant and as determined under Part 6, are specified for the following regulated sealants when in a ready to use condition:

Item	Regulated sealants	Maximum limits of volatile organic compound content
1.	Architectural sealants (except sealant primers)	250
2.	Architectural (non-porous) sealant primers	250
3.	Architectural (porous) sealant primers	775
4.	Marine deck sealants (except sealant primers)	760
5.	Marine deck sealant primers	760
6.	Modified bituminous sealant primers	500
7.	Non-membrane roof sealants (except sealant primers)	300
8.	Roadway sealants (except sealant primers)	250
9.	Single-ply roof membrane sealants (except sealant primers)	450

2. For the purposes of section 1, “regulated sealant” does not include a portable sealant or caulking compound.

3. The following maximum limits of volatile organic compound content, expressed as per cent by weight and as determined by Appendices A and B of Method 310 and using the equations set out in sections 3 and 4 of Part 7 of Schedule 3 as may be applicable, are specified for the following regulated sealants when in a ready to use condition:

Item	Regulated sealants	Maximum limits of volatile organic compound content
1.	Portable sealants or caulking compounds	4

4. The following maximum limits of volatile organic compound content, expressed as grams of volatile organic compounds per litre of sealant and as determined under Part 6, are specified for the following regulated sealants when in a ready to use condition:

Item	Regulated sealants	Maximum limits of volatile organic compound content
1.	Other sealants	420
2.	Other sealant primers	750

PART 6

METHOD OF CALCULATING THE VOLATILE ORGANIC COMPOUND CONTENT OF REGULATED ADHESIVES AND REGULATED SEALANTS

1. With the exception of ABS welding adhesives, adhesive primers for plastic, CPVC welding adhesives, low-solids adhesives, low-solids sealants, portable sealants or caulking compounds

and PVC welding adhesives, the volatile organic compound content of regulated adhesives and regulated sealants in a ready to use condition must be calculated by the following formula:

(a) for regulated adhesives and regulated sealants that do not contain reactive diluents:

$$\frac{W_a - W_b - W_c}{V_d - V_e - V_f}$$

Where:

W_a represents the weight of volatile matters in grams as determined by Method 24;
 W_b represents the weight of water in grams as determined by Method 24;
 W_c represents the weight of exempt compounds in grams as determined by Method 303;
 V_d represents the volume of material in litres as determined by Method 24;
 V_e represents the volume of water in litres, calculated by dividing the weight of water as determined by Method 24 by the density of water;
 V_f represents the sum of volumes of all individual exempt compounds in litres, where the volume of each individual exempt compound is calculated by dividing the weight of the compound as determined by Method 303 by the density of the compound;

(b) for regulated adhesives and regulated sealants that contain reactive diluents:

$$\frac{W_g - W_h - W_i}{V_j - V_k - V_l}$$

Where:

W_g represents the weight of volatile matters not consumed during curing in grams as determined by Method 24;
 W_h represents the weight of water not consumed during curing in grams as determined by Method 24;
 W_i represents the weight of exempt compounds not consumed during curing in grams as determined by Method 303;
 V_j represents the volume of material prior to curing in litres as determined by Method 24;
 V_k represents the volume of water not consumed during curing in litres, calculated by dividing the weight of water as determined by Method 24 by the density of water;
 V_l represents the sum of volumes of all individual exempt compounds not consumed during curing in litres, where the volume of each individual exempt compound is calculated by dividing the weight of the compound as determined by Method 303 by the density of the compound.

2. With the exception of ABS welding adhesives, adhesive primers for plastic, CPVC welding adhesives, portable sealants or caulking compounds and PVC welding adhesives, the volatile organic compound content of low-solids adhesives and low-solids sealants in a ready to use condition must be calculated by the following formula:

$$\frac{W_a - W_b - W_c}{V_d}$$

Where:

Wa represents the weight of volatile matters in grams as determined by Method 24;
Wb represents the weight of water in grams as determined by Method 24;
Wc represents the weight of exempt compounds in grams as determined by Method 303;
Vd represents the volume of material in litres as determined by Method 24.

3. The volatile organic compound content of ABS welding adhesives, adhesive primers for plastic, CPVC welding adhesives and PVC welding adhesives in a ready to use condition must be determined by Method 316A.(Schedule 7 added L.N. 107 of 2009)