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## Draft Regulations

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### Draft Regulation

Environment Quality Act  
(R.S.Q., c. Q-2)

#### Air quality

Notice is hereby given, in accordance with sections 10 and 11 of the Regulations Act (R.S.Q., c. R-18.1) and section 124 of the Environment Quality Act, that the Air Quality Regulation, the text of which appears below, may be made by the Government on the expiry of 60 days following this publication.

The purpose of the draft Regulation is to ensure greater protection of the atmosphere. For all sources of contamination, the draft Regulation prescribes emission limit values for various contaminants that cause air pollution, such as particulate matter, nitrogen oxides, sulphur dioxides, fluorides, mercury, dioxins and furans. It determines the classes of industrial or commercial activities for which the limit values are to apply, and introduces a requirement to install continuous emission measuring and recording equipment and to implement emission monitoring measures. The draft Regulation prescribes a mandatory sampling follow-up that is to be an integral component of the emission monitoring process. It adds to the number of substances that, because of their concentration in the ambient air, constitute a factor to be taken into account in the construction of a new stationary source of contamination or the alteration of an existing stationary source.

The draft Regulation requires operators of a source of contamination to which a standard prescribed in this Regulation applies to provide the Minister with the information necessary to identify the nature of contaminants being emitted or likely to be emitted, to evaluate the quantity or concentration of the contaminants and to locate the emission sites.

With respect to volatile organic compounds, the draft Regulation requires operators of petroleum refineries, petrochemical plants and organic chemical plants to implement leak control programs.

With regard to the use of fossil fuels, the draft Regulation lowers the allowable maximum sulphur content of heavy fuel oils, coal, coke and pitch as of March 2006.

The draft Regulation also prescribes the limit values and other standards that apply to fuel burning equipment and industrial furnaces fuelled with used oil or other residual hazardous materials.

Enterprises in the steel sector will be subject to emission limit values adapted to large capacity facilities.

The chief impact of the draft Regulation on enterprises in the industrial sectors concerned will be the requirements to install continuous emission monitoring equipment, maintain corresponding records and report to the Minister. Some enterprises will have to meet more stringent emission limits.

Lastly, to facilitate the transition to the new standards, the draft Regulation contains transitional provisions that determine when the new standards are to apply to facilities operating on the date of coming into force of the Regulation.

Further information may be obtained by contacting Martin Lecours, Direction des politiques sur l'air, Ministère du Développement durable, de l'Environnement et des Parcs, édifice Marie-Guyart, 675, boulevard René-Lévesque Est, 6<sup>e</sup> étage, boîte 30, Québec (Québec) G1R 5V7; telephone: (418) 521-3813, extension 4973; fax: (418) 646-0001; or e-mail: martin.lecours@mddep.gouv.qc.ca.

Any interested person having comments to make on the matter is asked to send them in writing, before the expiry of the 60-day period, to Martin Lecours, Direction des politiques sur l'air, Ministère du Développement durable, de l'Environnement et des Parcs, édifice Marie-Guyart, 675, boulevard René-Lévesque Est, 6<sup>e</sup> étage, boîte 30, Québec (Québec) G1R 5V7.

THOMAS J. MULCAIR,  
*Minister of Sustainable Development,  
Environment and Parks*

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## Air Quality Regulation

### Environment Quality Act

(R.S.Q., c. Q-2, s. 31, pars. *a, b, c, d, e, h, h.2, i*,  
s. 53, pars. *a, b, c*, ss. 109.1, 124.01 and 124.1)

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## TITLE I GENERAL

### CHAPTER I OBJECT

**1.** The object of this Regulation is to establish particle and gas emission standards, emission opacity standards and monitoring measures to prevent, eliminate, or reduce the release of contaminants into the atmosphere.

### CHAPTER II SCOPE

**2.** This Regulation applies to every source of atmospheric contamination. Unless indicated otherwise, this Regulation applies immediately to new or existing sources of contamination.

It applies immediately to any part of a source of contamination that is altered or expanded even though it is stated that it applies later to that source.

Despite the provisions of the first and second paragraphs:

— only the fuel sulphur content and gas discharge velocity standards set out in sections 55 and 59, the standards that apply to the use of a fuel referred to in Division V of Chapter VII of Title II and the ambient air standards referred to in section 195 apply to bituminous concrete plants;

— only the emission opacity standards set out in section 13, the fuel sulphur content standards set out in section 55, the gas discharge velocity standards set out in section 59, the standards that apply to the use of a fuel referred to in Division V of Chapter VII of Title II and the ambient air standards referred to in section 195 apply to quarries and sandpits;

— only the emission opacity standards set out in section 13, the fugitive dust emission standards set out in Chapter IV of Title II, the fuel sulphur content standards set out in section 55, subparagraphs 1 and 2 of the first paragraph and the second paragraph of section 56, the gas discharge velocity standards set out in section 59 and the ambient air standards referred to in section 195 apply to the production equipment subject to the provisions of Division III of the Regulation respecting pulp and paper mills made by Order in Council 1353-92 dated 16 September 1992;

— only the opacity standards set out in section 13, the fugitive dust emission standards set out in Chapter IV of Title II, the fuel sulphur content standards set out in section 55 and the ambient air standards referred to in section 195 apply to flour mills and other grain processing facilities whose production is not commercialized or that are operated on a farm by a farm producer with respect to farm products from the producer's operation or incidentally from the operations of other producers, or whose drying capacity does not exceed 15 tonnes per hour for a grain moisture rate reduction of at least 15%;

— only the fuel sulphur content standards set out in section 55 apply to fuel burning systems used for domestic heating.

Subject to the third paragraph, the emission standards referred to in section 7 apply to every source of contamination other than the facilities referred to in section 125 or 136 for which no specific particle emission standards are determined under this Regulation or any other Regulation made under the Environment Quality Act (R.S.Q., c. Q-2).

In the event that the provisions of this Regulation are inconsistent with those of any other Regulation made under the Environment Quality Act, the provisions that ensure greater protection of the environment are to prevail.

The provisions of this Regulation apply in a reserved area or an agricultural zone established under the Act respecting the preservation of agricultural land and agricultural activities (R.S.Q., c. P-41.1).

### CHAPTER III INTERPRETATION

**3.** For the purposes of this Regulation, unless the context indicates otherwise,

(1) the words and expressions below are to be interpreted as follows:

“emission limit” and “emission limit value” mean the mass, expressed in terms of certain parameters, the concentration, rate or level of an emission that may not be exceeded during one or more than one specified period or, in the cases provided for in certain provisions of this Regulation, that may be exceeded only on the conditions prescribed in those provisions; (*valeur limite d'émission*)

“existing” means established or put into operation or the construction of which commenced before (*insert the date of coming into force of this Regulation*); (*existant*)

“heavy fuel oil” means fuel oil meeting the specifications for types 4, 5 or 6 set out in CAN/CGSB-3.2-99 Heating Fuel Oil published in June 1999 by the Canadian General Standards Board; (*mazout lourd*)

“light fuel oil” means fuel oil meeting the specifications for types 0, 1 or 2 set out in CAN/CGSB-3.2-99 Heating Fuel Oil published in June 1999 by the Canadian General Standards Board; (*mazout léger*)

“light motor vehicle” means any motor vehicle with a 4-stroke engine whose gross weight as indicated by the manufacturer is 3000 kilograms or less, other than an off-highway vehicle within the meaning of the Act respecting off-highway vehicles (R.S.Q., c. V-1.2); (*véhicule automobile léger*)

“new” means established or put into operation or the construction of which commenced on or after (*insert the date of coming into force of this Regulation*), including any part of an existing source of contamination that is altered or expanded after that date to increase its rated capacity or its production by 35% or more, that percentage being calculated in relation to initial rated capacity or original production; (*nouveau ou nouvel*)

“prevailing wind” means the wind from August to November inclusively that prevails on average more than 20% of the time in a direction if a wind rose that has 8 compass directions is used, or more than 10% of the time if a wind rose that has 16 compass directions is used, as measured by the meteorological station nearest to the facility or activity; (*vent dominant*)

(2) the term “PCBs” means polychlorinated biphenyls;

(3) the term “VOCs” means volatile organic compounds;

(4) the term “PAHs” means polycyclic aromatic hydrocarbons;

(5) the term “average” means arithmetic average;

(6) the term “ppb” means parts per billion in volume;

(7) the term “ppm” means parts per million in volume;

(8) the term “R” means at reference conditions; and

(9) the reference conditions are a temperature of 25 °C and a pressure of 101.3 kPa.

## CHAPTER IV CONTAMINATION SOURCE INFORMATION REQUIREMENTS

**4.** Every operator of a source of contamination to which a standard set out in this Regulation applies must provide the Minister of Sustainable Development, Environment and Parks, at the Minister's request and within the time indicated, with all information necessary to identify the nature of contaminants being emitted or likely to be emitted, to evaluate their quantity or concentration, to locate the emission sites or to be familiar with the features of the facilities, equipment or processes involved.

## TITLE II EMISSION STANDARDS

### CHAPTER I SCOPE AND DEFINITIONS

**5.** Unless indicated otherwise, the standards prescribed in this Title do not apply during the start-up or shutdown operations of a device or process.

The standards prescribed in this Title do not apply to emissions from motor vehicles, aircraft, ships or locomotives.

In addition, the standards prescribed for PAHs apply only to the PAHs listed in Schedule A.

**6.** In this Title, unless the context indicates otherwise,

“biomedical waste” means biomedical waste referred to in section 1 of the Regulation respecting biomedical waste made by Order in Council 583-92 dated 15 April 1992; (*déchets biomédicaux*)

“feed rate” means the total weight of the substances introduced into an industrial process during a full operating cycle, including solid fuels; (*taux d'alimentation*)

“hazardous material” means hazardous material within the meaning of paragraph 21 of section 1 of the Environment Quality Act (R.S.Q., c. Q-2); (*matière dangereuse*)

“particle” means any substance, except uncombined water, which exists in a finely divided liquid or solid state in suspension in a gaseous environment; (*particule*)

“process” means any method, reaction or operation through which the substance treated undergoes a physical or chemical change in the same production line, and includes all successive operations on the same substance bringing about the same type of physical change; (*procédé*)

“rated heat capacity” means the maximum heat input rate of fuel burning equipment or an industrial furnace as specified by the manufacturer, or if an authorization certificate issued by the Minister of Sustainable Development, Environment and Parks for the equipment or furnace provides for a different heat input rate, the heat input rate indicated in the certificate; (*capacité calorifique nominale*)

“rated power” means the maximum useful power of equipment as specified by the manufacturer or, if an authorization certificate issued by the Minister of Sustainable Development, Environment and Parks for the equipment provides for a different power, the power indicated in the certificate; (*puissance nominale*)

“residual hazardous material” means residual hazardous material within the meaning of section 5 of the Regulation respecting hazardous materials and amending various regulatory provisions made by Order in Council 1310-97 dated 8 October 1997; (*matière dangereuse résiduelle*)

“toxic material” means toxic material within the meaning of paragraphs 2 and 3 of the definition of toxic material in section 3 of the Regulation respecting hazardous materials and amending various regulatory provisions; (*matière toxique*)

“vapor pressure” means the equilibrium partial pressure exerted by a volatile organic liquid as specified in the method entitled Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isotenscope published by the American Society of Testing and Materials (ASTM-D-2879-97). (*tension de vapeur*)

## CHAPTER II PARTICLE EMISSION LIMIT VALUES

### DIVISION I LIMIT VALUES APPLICABLE TO PARTICLE EMISSIONS FROM INDUSTRIAL PROCESSES

#### §1. Emission standards

**7.** Subject to the third paragraph of section 2, section 9, the provisions of Chapters VII to IX and the provisions of Divisions I to XI of Chapter X of this Title, a process that emits particles into the atmosphere must not emit particles in excess of the limits prescribed respectively for certain existing stationary sources and for new stationary sources in Schedules B and C.

## §2. Emission monitoring measures

**8.** Where no other provision of this Regulation establishes a time period for the carrying out of the measures required to verify the compliance of a process referred to in section 7 with the limits referred to in that section, the operator must, at least once every five years, perform source emissions testing of particle emissions, calculate the emission rate and for that purpose, measure each of the parameters necessary for the calculation.

In addition, the operator must, in the case of an existing operation, take a first sample and carry out a first calculation within 24 months after (*insert the date of coming into force of this Regulation*) or, in the case of a new operation, within six months after the date on which the operation commences.

The operator must retain the data for a minimum of four years.

## DIVISION II

### LIMIT VALUES AND OTHER STANDARDS APPLICABLE TO PARTICLE EMISSIONS FROM CERTAIN FACILITIES OR ACTIVITIES OR CERTAIN INDUSTRIAL PROCESSES

**9.** The following industrial facilities, activities and processes must not emit or have the effect of emitting particles into the atmosphere in a concentration greater than 30 milligrams per cubic metre at reference conditions for each emission point:

- (1) flour mills or other grain processing facilities;
- (2) distilleries;
- (3) breweries;
- (4) powdered food plants;
- (5) fertilizer mixing plants;
- (6) concrete plants;
- (7) ceramic, refractory composite, clay or porcelain products plants;
- (8) polyvinyl chloride processing plants;
- (9) storage in a confined environment;
- (10) welding or metal works;
- (11) indoor sandblasting; and

(12) preparation, concentration, agglomeration or drying of ore or ore concentrate, coke or coal, except asbestos ore.

**10.** The emission limit prescribed in section 9 also applies to any particle collection system designed to prevent dust emissions during the transfer or handling of the materials referred to in section 14.

**11.** A grain processing facility whose rated drying capacity exceeds 15 tonnes per hour for a grain moisture rate reduction of at least 15% must be installed more than 300 metres from a residential zone established by the competent municipal authorities or from a dwelling situated in the direction of the prevailing wind, and more than 150 metres from any other dwelling, except a dwelling owned by or leased to the owner or the operator of the grain processing facility.

## CHAPTER III EMISSION OPACITY

**12.** The opacity standards prescribed in this Chapter do not apply to smoke from open burning authorized under Title III, to fugitive dust emissions to which Chapter IV of this Title applies, to emissions from incineration plants other than crematoriums and animal incinerators that incinerate a residual material referred to in section 98 or to elimination sites to which Division X.1 of the Regulation respecting solid waste (R.R.Q., 1981, c. Q-2, r.14) applies.

**13.** The opacity of grey or black emissions into the atmosphere from a source of contamination must not exceed 20% for each emission point, except in the following cases and on the following conditions:

(1) on igniting a combustion furnace or blowing tubes, emission opacity may exceed 20% for a maximum period of four minutes, without exceeding 60%;

(2) on starting a stationary internal combustion engine, emission opacity may exceed 20% for a maximum period of four minutes;

(3) on operating a source of contamination referred to in subparagraphs 1 and 2, emission opacity may exceed 20%, without exceeding 40%, for one or more periods totalling four minutes per hour.

For the purposes of the first paragraph, emission opacity is measured using the Micro-Ringelmann chart in Schedule D, in accordance with the instructions in that Schedule.

## CHAPTER IV FUGITIVE DUST EMISSION STANDARDS

**14.** Dust emissions from access roads, traffic areas and lanes situated within the boundaries of a source of contamination or from an accumulation of aggregates, residues or materials of any sort must not be visible more than 5 metres from the emission point. The same applies to dust emissions from the transfer or handling of materials including aggregates, ashes, grains, fertilizers, sawdust and wood chips, mine tailings, ore, ore concentrate, ore slag, coal, coke or iron pellets.

**15.** Dust emissions from abrasive blast cleaning or scraping must be contained within an enclosed space, except in the case of a bridge or a metallic wharf being cleaned or scraped using a wet blast system.

**16.** Despite the provisions of the Regulation respecting hazardous materials and amending various regulatory provisions, dust recovered with a dry dust collector must be handled, transported, stored and disposed of so no emission is visible more than 5 metres from the emission point.

## CHAPTER V EMISSION LIMIT VALUES FOR VOLATILE ORGANIC COMPOUNDS AND OTHER STANDARDS APPLICABLE TO CERTAIN INDUSTRIAL OR COMMERCIAL FACILITIES OR ACTIVITIES

### DIVISION I INTERPRETATION AND SCOPE

**17.** In this Chapter, unless the context indicates otherwise,

“HVLP” means a high volume, low pressure spraying device using maximum atomizing air pressure of 69 kPa measured at the centre of the air cap and its horns; (*HVBP*)

“organic solvent” means a liquid organic compound at reference conditions used as a thinner, solvent, viscosity reducer or cleaning agent; (*solvant organique*)

“volatile organic compound” means any organic compound that has the property of changing into vapour and the potential to react photochemically in the atmosphere. (*composé organique volatil*)

For the purposes of this Chapter, dyes, primers, varnishes, lacquers, inks, elastomers, wood or masonry treatment products and any preparation of the same nature intended for maintenance, protection or decoration purposes are considered to be paints.

**18.** This Chapter applies to volatile organic compounds released or likely to be released during storage or during the use or storage of organic solvents.

However, the provisions of this Chapter do not apply to the following volatile organic compounds: acetone, methane, ethane, methyl acetate, methyl chloroform (1,1,1-trichloroethane), dichloromethane (methylene chloride), fluorocarbons, chlorofluorocarbons and hydrochlorofluorocarbons.

### DIVISION II GENERAL STANDARDS

#### §1. Emission standards

**19.** Organic solvents or substances that contain organic solvents must not be used in a manner that emits or allows the emission of volatile organic compounds into the atmosphere in excess of the limit of 100 kilograms per day.

Despite the first paragraph, volatile organic compound emissions may exceed 100 kilograms per day if the source of emission is equipped with a system that reduces on a daily basis at least 90% of the source’s volatile organic compound emissions.

**20.** The prohibition under section 19 does not apply to the manufacturing of insecticides, pesticides or herbicides or to the use of halocarbons.

The activities referred to in the provisions of subdivisions 1 and 3 to 8 of Division III of this Chapter are also excluded from the application of section 19.

In addition, the activities referred to in subdivision 2 of Division III of this Chapter are excluded from the application of the second paragraph of section 19.

#### §2. Emission monitoring measures

**21.** The operator of a source of emission referred to in section 19 must, at least once every three years, calculate the rate of volatile organic compound emissions into the atmosphere using a mass balance performed on the basis of the combined volatile organic compound content of all the products used.

For the application of the second paragraph of section 19, the operator must, at the same frequency, perform source emissions testing and analyze the volatile organic compounds emitted into the atmosphere, calculate the percentage of reduction and for that purpose, measure each of the parameters established in that section.



In addition, the operator must, in the case of an existing operation, carry out a first calculation of the emission rate or, where applicable, take a first sample and carry out a first analysis within twelve months after (*insert the date of coming into force of this Regulation*) or, in the case of a new facility, within six months after the date on which the facility commences operations.

The operator must retain the data for a minimum of four years.

### DIVISION III STANDARDS SPECIFIC TO CERTAIN SOURCES OF CONTAMINATION

#### §1. *Paint or adhesive manufacturing*

**22.** The operator of an establishment where paints or adhesives are manufactured must ensure that the vats used to mix the ingredients are provided with lids in good working order that comply with the following specifications:

(1) the lids must be attached to the rim of the vat or the rim of the lids must extend at least 1.3 cm beyond the outer rim of the vat;

(2) the lids must maintain contact with the rim of the vat over at least 90% of the circumference; and

(3) when equipped with a slit to allow for the insertion of a mixer shaft, the shaft clearance must not exceed 2.5 cm.

In addition, the operator must ensure that the vats are kept covered, except for the time required to fill them, add ingredients or take samples.

**23.** The operator of an establishment referred to in section 22 must also, where the production equipment has dispersion mills, ensure that the mills have fully enclosed screens to prevent volatile organic compound emissions.

**24.** The operator of an establishment referred to in section 22 must maintain a record, for each month of operation, of the quantity of each type of paint or adhesive manufactured, the percentage in weight of each volatile organic compound used in the manufacturing and the quantity of solvents required to clean the paint manufacturing equipment.

The operator must retain the data for a minimum of four years.

#### §2. *Printing activities*

**25.** The volatile organic compounds emitted into the atmosphere by printing activities may, for the combined activities of a facility, exceed the limit referred to in the first paragraph of section 19 provided that the emission of the substances by the printing operation is reduced by a percentage at least equal to the percentage set out in the following table, for each type of printing process, through the use of ink or other substances having a lower volatile organic compound content or the installation of a volatile organic compound emission reduction system:

Process	Percentage of VOC emission reduction
Flexography	90%
Rotogravure	90%
Offset lithography with heatset ink	90%
Offset lithography without heatset ink	70%
Letterpress printing	70%

For the purposes of this section, the emission reduction percentages are calculated on a monthly basis using the following reference parameters:

Process	Solvent density (kg/l)	Ink density (kg/l)	Percentage of solids (in volume) in ink
Flexography	0.8	1.1	25%
Rotogravure	0.8	1.0	25%
Offset lithography	0.8	1.0	60%
Letterpress printing	0.8	1.0	60%

#### §3. *Application of paint*

**26.** The emission of volatile organic compounds into the atmosphere from the combined paint application activities of an establishment, including the use of solvents to dilute the paint or clean the equipment, must not exceed 15 kilograms per day.

That prohibition does not apply to the application of translucent paints in sign manufacturing processes or to the application of paint outside a paint shop or paint room.

It also does not apply to the application of paint performed in accordance with any of sections 28 to 30, 33, 35 and 36, as long as the operator of the establishment, in addition to the conditions set out in those sections, maintains a record indicating for each month and for each type of paint, the volumes used, the volatile organic compound content, the volumes of solvents added to dilute the paint or clean the equipment and all data necessary to calculate volatile organic compound emissions.

**27.** A facility in which organic solvent-based paints or water-based paints are applied must be equipped with

(1) a collection system that retains more than 90% of the particles that would otherwise be emitted into the atmosphere; and

(2) a gas exhaust stack that extends at least 5 metres above the roof ridge of the building where the paint is applied.

In addition, the vertical exhaust velocity of the gases must be at least 15 metres per second at the stack outlet.

#### §4. Application of paint on wood surfaces

**28.** The emission of volatile organic compounds into the atmosphere from the combined paint application activities of a flooring or prefinished panel manufacturing establishment may exceed the limit prescribed in section 26 provided that the volatile organic compound content of the paints applied does not exceed the limit set out in the following table for each type of paint:

Type of paint	VOC content (kg/l of product applied)
Washcoat	0.73
Primer	0.60
Translucent stain	0.76
Non-grain raising stain	0.78
Ink	0.50
Filler	0.48
Sealer	0.67
Transparent finishing coat	0.67
All other types of paint	0.67

**29.** The emission of volatile organic compounds into the atmosphere from the combined paint application activities of a door or window manufacturing establishment may exceed the limit prescribed in section 26 provided that the volatile organic compound content of the paints applied does not exceed the limit set out in the following table for each type of paint:

Type of paint	VOC content (kg/l of product applied)
Pigmented primer	0.60
Pigmented finishing coat	0.48
Transparent finishing coat	0.67
All other types of paint	0.67

**30.** The emission of volatile organic compounds into the atmosphere from the combined paint application activities of a furniture, cupboard, casket or other wood products manufacturing establishment, except an establishment referred to in section 28 or 29, may exceed the limit prescribed in section 26 provided that the volatile organic compound content of the paints applied does not exceed the limit set out in the following table for each type of paint:

Type of paint	VOC content (kg/l of product applied)
Washcoat	0.73
Translucent stain	0.76
Non-grain raising stain	0.78
Filler	0.48
Sealer	0.67
Pigmented coating	0.60
Transparent finishing coat	0.67
Laquered finishing coat	0.78
All other types of paint	0.78

**31.** For the purposes of sections 28, 29 and 30, the volatile organic compound content is established according to the monthly weighted average composition of the volumes used for each type of paint. If a solvent, hardener or catalyst is mixed with the paint, the volatile organic compound content of the product must be

included in the calculation of the average content of the paint used to determine its volatile organic compound content.

**32.** The operator of a paint shop or paint room must not use or permit the use therein of a paint gun having a transfer efficiency lower than that of an HVLP paint gun to apply paint on wood surfaces if the emission of volatile organic compounds into the atmosphere from the combined paint application activities exceeds 15 kilograms per day.

That prohibition does not apply to touch-up paint work.

**§5. Application of paint on surfaces other than wood**

**33.** The emission of volatile organic compounds into the atmosphere from the combined paint application activities of an establishment in a class listed in the following table may exceed the limit prescribed in section 26 provided that the volatile organic compound content of the paints applied does not exceed the limit set out in the following table for each class of establishment and each type of application :

Class of establishment	Type of application	VOC content (kg/l of product applied)
Manufacturing of tins, cans or other types of closed metallic containers	Base coat and varnish for metal sheet	0.34
	Coating of the interior and top of the container	0.51
	Coating of the weld	0.66
Textile industry	Seal coating	0.44
	Fabric coating process	0.35
Other establishments except those referred to in subdivisions 6 to 8 of Division III of this Chapter	Vinyl coating	0.45
	All applications	0.58

Emissions of volatile organic compounds into the atmosphere from an industrial or a commercial establishment in a class covered by the last box in the above table may exceed the limit prescribed in section 26 even if the volatile organic compound content of the paints

applied exceeds 0.58 kg/l of applied product provided that the emissions are not higher than would be the case if the paint were applied using an HVLP paint gun.

For the purposes of this section, the volatile organic compound content is established according to the monthly weighted average composition of the volumes used for each type of paint. If a solvent, hardener or catalyst is mixed with the paint, the volatile organic compound content of the product must be added to that of the paint used to determine its volatile organic compound content.

**§6. Application of paint in the automobile industry**

**34.** The emission of volatile organic compounds into the atmosphere from the combined paint application activities of a light motor vehicle assembly plant may exceed the limit prescribed in section 26 provided that the volatile organic compound content of the paints applied does not exceed the limit set out in the following table for each type of application :

Type of application	VOC content (kg of volatile organic compounds per litre of solids applied)
Electroplating bath	0.16
Primer coat spraying	1.40
Coat spraying including colour and transparent part	1.89

The operator of a plant referred to in the first paragraph must maintain a record of the average quantities of volatile organic compounds emitted during the month per litre of paint solids applied, the percentage of solids in the paint, the quantities of solvents added, the actual efficiency coefficients of the equipment used and any other parameter necessary to calculate the emissions. The calculation must be performed using the method established in United States regulations, reference 40 CFR6.393.

For the purposes of this section, the emission limit is established according to the monthly weighted average composition of the volumes of paint used for each type of application. In addition, where a solvent, hardener or catalyst is mixed with the paint, the volatile organic compound content of the product must be included in the calculation of the volatile organic compound content of the paint.

**35.** The emission of volatile organic compounds into the atmosphere from the combined paint application activities of a bus body paint shop or paint room may

exceed the limit prescribed in section 26 provided that the average volatile organic compound content of the paints applied, calculated over a twelve-month period and weighted with regard to the volumes used for each type of paint, does not exceed 0.58 kilograms of volatile organic compounds per litre of product applied.

For the purposes of this section, the volatile organic compound content is established according to the annual weighted average composition of the volumes of paint used for each type of application. In addition, if a solvent, hardener or catalyst is mixed with the paint, the volatile organic compound content of the product must be included in the calculation of the volatile organic compound content of the paint.

**36.** The emission of volatile organic compounds into the atmosphere from the combined paint application activities of a body repair and paint shop may exceed the limit prescribed in section 26 provided that the volatile organic compound content of the paints applied does not exceed the limit set out in the following table for each type of application:

Type of application	VOC content (kg/l of product applied)
Pretreatment primer	0.78
Primer-surfacer or primer sealer	0.55
Finishing coat	0.60
Specialty paints	0.84

For the purposes of this section, the volatile organic compound content is established according to the monthly weighted average composition of the volumes of paint used for each type of application. In addition, if a solvent, hardener or catalyst is mixed with the paint, the volatile organic compound content of the product must be included in the calculation of the volatile organic compound content of the paint.

**37.** The operator of a body repair and paint shop must not use or permit the use in the shop of a paint gun having a transfer efficiency lower than that of an HVLP paint gun.

*§7. Application of paint on roads, roadways, parking areas and certain other surfaces*

**38.** Paint having a volatile organic compound content in excess of 0.45 kilograms per litre of product applied must not be applied on roads, roadways, parking areas, sidewalks, bicycle trails, curbs, or approach noses.

As of 1 March 2006, the volatile organic compound content of paint applied on roads and roadways must not exceed 0.15 kilograms per litre of product applied. However, if the paint is applied during the period between 15 October and 1 May, the volatile organic compound content of the paint must not exceed 0.45 kilograms per litre of product applied.

For the purposes of this section, the volatile organic compound content of solvents mixed with the paint must be added to that of the paint applied to determine its volatile organic compound content.

*§8. Dry cleaning activities*

**39.** A new dry cleaning establishment using tetrachloroethylene or other cleaning agent containing chlorine or substances containing chlorine must not emit into the atmosphere more than 20 kilograms of volatile organic compounds per 1,000 kilograms of textiles cleaned.

An existing establishment must not emit a quantity of volatile organic compounds into the atmosphere in excess of

(1) 50 kilograms per 1,000 kilograms of textiles cleaned using “transfer” equipment;

(2) 35 kilograms per 1,000 kilograms of textiles cleaned using “closed-circuit” equipment that is not cooled; or

(3) 20 kilograms per 1,000 kilograms of textiles cleaned using cooled “closed-circuit” equipment.

The operator of an existing establishment must comply with the provisions of the first paragraph as of (*insert the date occurring 12 months after the date of coming into force of this Regulation*).

**40.** An operator of a dry cleaning establishment that uses petroleum solvents or substances containing such solvents must not emit or allow the emission of volatile organic compounds into the atmosphere in excess of 65 kilograms per 1,000 kilograms of textiles cleaned.

**41.** The operator of a dry cleaning establishment must maintain a record of the quantities of volatile organic compounds bought or used during the month, the quantities of volatile organic compounds on hand at the end of that period, the weight of the textiles cleaned and the quantities in kilograms of volatile organic compounds used during that period per 1,000 kilograms of textiles cleaned.

The operator must retain the data for a minimum of four years.

**§9. Above-ground storage of volatile organic compounds**

**42.** Every above-ground tank of a capacity equal to or greater than 4 cubic metres that is used to store volatile organic compounds that have a vapor pressure under storage conditions equal to or greater than 10 kPa must have a submerged fill pipe.

**43.** Every above-ground tank of a capacity equal to or greater than 75 cubic metres that is used to store volatile organic compounds that have a vapor pressure under storage conditions between 10 and 76 kPa must have a floating roof of one of the following types:

- (1) double seal;
- (2) liquid-mounted primary seal;
- (3) mechanical shoe seal; or
- (4) another type that has a sealing efficiency of at least 95%.

If the vapor pressure of the stored products is greater than 76 kPa under storage conditions, the tank must have an emission recovery system in good working order.

**§10. Volatile organic compound leak control program**

**44.** The operator of a petroleum refinery, petrochemical or organic chemical plant or petroleum depot or terminal with an annual capacity of more than 250 million litres, whose equipment contains or is intended to contain substances consisting of 10% or more in volume of volatile organic compounds that have a vapor pressure equal to or greater than 1 kPa at a temperature of 20 °C, must implement an annual program to detect and repair any volatile organic compound leak causing a concentration in the air in excess of 10,000 ppm, or any benzene or butadiene leak causing a concentration in the air in excess of 1,000 ppm.

**45.** The program must cover all of the following equipment parts:

- (1) gate valves and other valves;
- (2) pump, compressor and agitator seals;
- (3) joints or connections; and
- (4) open pipes.

Equipment maintained under negative pressure or completely covered with thermal insulation is excluded from the program.

For the purposes of this section, an open pipe means a gate valve or a valve, except a pressure relief valve, with one side of the seat in contact with an industrial fluid and the other side exposed to the atmosphere.

**46.** Leak detection must be carried out

(1) once every three months between 1 April and 30 November for pump, compressor or agitator seals; and

(2) once a year for all other parts.

**47.** If a volatile organic compound leak is detected on an equipment part, the operator must have the required repair carried out within 15 days in the case of an organic compound consisting of 10% or more in volume of benzene or butadiene or within 45 days in any other case. However, if the repair requires the interruption of an on-going process, the repair must be carried out not later than the next shutdown of the process involved.

**48.** Despite section 45, if the number of leaks detected for the entire operation during two consecutive annual detection periods is less than 2% of the number of equipment parts in each category inspected, the detection program may be limited to 10% of the equipment parts of each type, as long as the number of leaks detected does not exceed 1% of the number of equipment parts sampled.

**49.** The operator referred to in section 44 must forward to the Minister of Sustainable Development, Environment and Parks, not later than 31 March of each year,

(1) a report indicating, for each category of equipment part, the results of the leak detection program for the previous year and any remedial work performed; and

(2) an estimate of the total quantities of volatile organic compounds emitted into the atmosphere for all of the equipment parts listed in section 45, for the entire operation in the preceding year.

For the purposes of subparagraph 2, the estimate must be calculated using the formulas in Table I of Schedule E for each category of operation and the most recent measure of volatile organic compound concentration used for each equipment part.

The formulas in Table II of Schedule E apply when no leaks are detected for a category of equipment part.

## CHAPTER VI EMISSION LIMIT VALUES AND OTHER STANDARDS APPLICABLE TO STATIONARY INTERNAL COMBUSTION ENGINES

### DIVISION I EMISSION STANDARDS

**50.** A stationary internal combustion engine, other than an engine used in an emergency to operate a generator, pump, compressor or other similar unit, must not emit into the atmosphere

(1) nitrogen oxides in excess of the limits set out in the following table:

Rated Power MW	Emission limits (grams of nitrogen oxides per megajoule of fuel input)	
	Existing engine	New engine
< 1	2.2	2.2
≥ 1 and ≤ 10	4.5	2.5
> 10	2.7	2.5

(2) more than 1.8 grams of carbon monoxide per megajoule of fuel input in the case of an engine with a rated power equal to or greater than 1 MW, or 0.65 grams of carbon monoxide per megajoule of fuel input for an engine with a rated power less than 1 MW; or

(3) over 2.2 grams of total hydrocarbons per megajoule of fuel input in the case of an engine with a rated power equal to or greater than 1 MW using gas or a fuel mixture, or 0.28 grams of total hydrocarbons per megajoule of fuel input in the case of an engine with a rated power equal to or greater than 1 MW using diesel or light fuel oil or in the case of an engine with a rated power of less than 1 MW.

### DIVISION II EMISSION MONITORING MEASURES

**51.** The operator of a stationary internal combustion engine with a rated power equal to or greater than 10 MW must, at least once every three years, perform source emissions testing of the gases emitted into the atmosphere, calculate the rate of the contaminants referred to in section 50 and for that purpose, measure each of the parameters necessary for the calculation.

The operator must retain the data for a minimum of four years.

**52.** Fuel that has a sulphur content exceeding the following limits cannot be used in a stationary internal combustion engine:

- (1) 2.0% by weight for heavy fuel oil; or
- (2) 0.5% by weight for light fuel oil.

Despite the foregoing, as of 1 March 2006, heavy fuel oil that has a sulphur content exceeding 1.5% by weight cannot be used in a stationary internal combustion engine.

## CHAPTER VII EMISSION LIMIT VALUES AND OTHER STANDARDS APPLICABLE TO COMBUSTION PLANTS

### DIVISION I INTERPRETATION

**53.** In this Chapter, unless the context indicates otherwise,

“fuel burning equipment” means any indirect heat transfer equipment that uses fuel for heating purposes, for an industrial process or for electricity production; (*appareil de combustion*)

“industrial furnace” means any direct heat transfer equipment that uses fuel for an industrial process; (*four industriel*)

“pulp and paper mill waste” means mill waste referred to in section 93 of the Regulation respecting pulp and paper mills made by Order in Council 1353-92 dated 16 September 1992, except bark and wood waste; (*déchets de fabrication de pâtes et papiers*)

“wood waste” means wood waste from wood cutting operations or wood product transformation and includes tree branches, sawdust, chips, shavings, dust, bark and wood particle panels or wood particle panel waste, but excludes pulp and paper mill waste. (*résidus de bois*)

**54.** If the combustion chamber of fuel burning equipment is modified after (*insert the date of the day preceding the date of coming into force of this Regulation*), the fuel burning equipment is considered to be new equipment within the meaning of section 3.

## DIVISION II GENERAL

**55.** The use of fossil fuel in fuel burning equipment or in an industrial furnace is prohibited if the fossil fuel has a sulphur content exceeding

- (1) 2.0% by weight for heavy fuel oil;
- (2) 0.5% by weight for light fuel oil;
- (3) 2.0% by weight for coal;
- (4) 2.0% by weight for coke; or
- (5) 2.0% by weight for pitch.

Despite the foregoing, as of 1 March 2006, the use as fuel of coal, coke, pitch or heavy fuel oil that has a sulphur content exceeding 1.5% by weight is prohibited.

**56.** The sulphur limits prescribed in section 55 for heavy fuel oil, coal, coke and pitch do not apply if

- (1) part of the sulphur that would otherwise be emitted in the form of sulphur dioxide in the combustion gases is collected and blended with a raw material or product coming into contact with the gases;
- (2) part of the sulphur that would otherwise be emitted in the form of sulphur dioxide in the combustion gases is collected and treated in a gas scrubber; or
- (3) in a petroleum refinery, another low sulphur fossil fuel is used simultaneously. In that case, the sulphur dioxide emission must never be greater than the emission that would be obtained by burning a quantity of heavy fuel oil that has a 1% sulphur content and an equivalent heat content.

Despite the first paragraph, the quantity of sulphur dioxide emitted into the atmosphere during fossil fuel combustion must not exceed the quantity emitted when burning a quantity of heavy fuel oil that has a sulphur content meeting the requirements of section 55 and that is equivalent in calorific value.

**57.** The operator of a furnace or equipment to which one of the cases described in section 56 applies must maintain a record of the origin, quantity, sulphur content and heat content of the heavy fuel oil, coal, coke, or pitch used.

In the case described in subparagraph 3 of the first paragraph of section 56, the operator must also maintain a record of the nature, quantity, sulphur content and heat content of each fossil fuel used for each operating day or part of an operating day.

The operator must retain the data for a minimum of four years.

**58.** As of 1 January 2007, when replacing a burner in fuel burning equipment with a rated heat capacity or rated power, as the case may be, equal to or greater than 3 MW, the installation of a new burner that has a nitrogen oxide emission rate greater than that of a staged combustion burner is prohibited.

**59.** The velocity of combustion gas discharge into the atmosphere from the following equipment must be at least 15 metres per second at the stack outlet when the equipment is operating at its rated heat capacity or, where applicable, at its rated power:

- (1) fuel burning equipment installed or put into operation on or after 14 November 1979 that uses heavy fuel oil, as long as the gases emitted from the equipment are discharged through a stack installed or built on or after that date;
- (2) new fuel burning equipment that has a rated heat capacity or, where applicable, a rated power, equal to or greater than 3 MW; and
- (3) fuel burning equipment that has a rated heat capacity or, where applicable, a rated power equal to or greater than 3 MW if the gases are emitted through a stack installed or built after (*insert the date of coming into force of this Regulation*).

For the purposes of sections 58 and 59, rated heat capacity is in reference to fuel burning equipment whose fuel is in a liquid or gaseous state at the feed point. If the fuels used are not in a liquid or gaseous state at the feed point, rated power applies.

## DIVISION III FUEL BURNING EQUIPMENT OR STATIONARY COMBUSTION TURBINES USING FOSSIL FUELS OTHER THAN USED OIL

### §1. Fuel burning equipment

**60.** Fuel burning equipment coupled to one or more stationary combustion turbines is excluded from the application of this subdivision. The applicable limits for stationary combustion turbines apply to such fuel burning equipment.

**61.** Fuel burning equipment using exclusively fossil fuel other than used oil must not emit particles into the atmosphere in excess of the limits set out in the following table:

Rated heat capacity MW	Fuel used	Emission limits (grams of particles per gigajoule of fuel input)	
		Equipment installed or put into operation on or before 14 November 1979	Equipment installed or put into operation after 14 November 1979
>3 and ≤15	Light fuel oil	85	60
	Heavy fuel oil		
>15	Light fuel oil	60	45
	Heavy fuel oil		

For fuel burning equipment used in an electricity generating station and that produces steam at a rated heat capacity that enables electric power production equal to or greater than 125 megawatts, the emission limit is 45 grams of particles per gigajoule of fuel input.

**62.** New fuel burning equipment referred to in section 61 must not emit nitrogen oxides into the atmosphere in excess of the limits set out in the following table:

Rated heat capacity MW	Fuel used	Emission limits (grams of nitrogen oxides per gigajoule of fuel input)
≥ 3 and ≤ 30	Gas	26
	Light fuel oil	40
	Heavy fuel oil (nitrogen content ≤ 0.35%)	90
	Heavy fuel oil (nitrogen content > 0.35%)	110
>30	Gas	40
	Light fuel oil	50
	Heavy fuel oil (nitrogen content ≤ 0.35%)	90
	Heavy fuel oil (nitrogen content > 0.35%)	125

In the case of existing fuel burning equipment put into operation after 14 November 1979, the applicable limits are the limits set out in the following table:

Rated heat capacity MW	Fuel used	Emission limits (grams of nitrogen oxides per gigajoule of fuel input)
≥ 15 and ≤ 70	Gas	80
	Light fuel oil Heavy fuel oil	175
> 70	Gas	110
	Light fuel oil Heavy fuel oil	135

**63.** In the case of fuel burning equipment in an electricity generating station that was put into operation on or before 14 November 1979, that is situated in the area described in Schedule J and that uses electric generators having a production capacity greater than 125 MW, the applicable limit for nitrogen oxide emissions from all the equipment combined is 2.1 kilotonnes per year as of 1 January 2007.

**64.** Where fossil fuel is used in a proportion of 50% or more in the fuel burning equipment in an electricity generating station that has a rated electricity generating capacity greater than 25 MW, that is situated in the area described in Schedule J and that supplies electricity to a public distribution network, the applicable limits for nitrogen oxide emissions are, as of 1 January 2007, the limits prescribed in the first paragraph of section 62 for a rated heat capacity greater than 30 MW.

## §2. Stationary combustion turbines

**65.** A stationary combustion turbine used to produce electricity must not emit nitrogen oxides into the atmosphere in excess of the limits set out in the following table for each category of turbine:

Category of turbine (electricity production capacity)	Nitrogen oxide emission limits (ppm)	Date of application
<50 MW	30	1 January 2007
<50 MW supplied by liquid fuel and situated outside the area described in Schedule J	60	1 January 2007



Category of turbine (electricity production capacity)	Nitrogen oxide emission limits (ppm)	Date of application
≥50 MW	15	<i>(Insert the date of coming into force of this Regulation)</i>
≥50 MW and situated in the area described in Schedule J	4	<i>(Insert the date of coming into force of this Regulation)</i>

For the purposes of this section, if a facility has several turbines, the prescribed limits are determined according to the total production capacity of all the facility's turbines.

This section does not apply to a combustion turbine or a set of turbines if the nitrogen oxide emission is less than 25 tonnes per year.

**66.** A combustion turbine referred to in section 65 must not emit carbon monoxide into the atmosphere in excess of 16 ppm.

**67.** If the turbine is equipped with a catalytic reduction system for nitrogen oxide control, the ammonia content of the emission gases must not exceed 5 ppm.

**68.** For the purposes of sections 65 to 67, the concentration of the contaminants emitted is determined using average concentration measured in the emissions over a period of three hours and is expressed on a dry basis corrected to 15% oxygen according to the following formula:

$$E = E_a \times \frac{5.9}{20.9 - A}$$

where

“E” is the corrected concentration;

“E<sub>a</sub>” is the uncorrected concentration on a dry basis; and

“A” is the percentage of O<sub>2</sub> on a dry basis in the combustion gases at the sampling site.

### §3. Monitoring equipment

**69.** Fuel burning equipment referred to in any of sections 61 to 64 with a rated heat capacity equal to or greater than 15 MW must be equipped with a sampling system in good working order that continuously meas-

ures and records the particle concentration or opacity of the gases emitted as well as the oxygen and nitrogen oxide concentration.

However, if such equipment is supplied exclusively with gaseous fuel, the opacity and particle concentration in the gases emitted need not be measured and recorded by the sampling system.

The operator must retain the data for a minimum of four years.

For the purposes of this section, all the fuel burning equipment emitting gases through a single stack constitutes a single unit of equipment.

This section applies to existing fuel burning equipment only as of 1 March 2006.

**70.** Every combustion turbine, except a turbine referred to in the third paragraph of section 65, must be equipped with a sampling system that continuously measures and records nitrogen oxides, carbon monoxide and oxygen in the combustion gases. In the case referred to in section 67, the continuous sampling and recording system must also measure the ammonia content in the combustion gases.

The operator must retain the data for a minimum of four years.

### §4. Emission monitoring measures

**71.** The operator of fuel burning equipment referred to in any of sections 60 to 64, with a rated heat capacity equal to or greater than 3 MW, and the operator of a stationary combustion turbine referred to in any of sections 65, 66 and 67 must, at least once every three years, perform source emissions testing of the gases emitted into the atmosphere by the equipment, calculate the rate or concentration of the contaminants referred to in those sections and for that purpose, measure each of the parameters necessary for the calculation.

The operator must retain the data for a minimum of four years.

In addition, the operator must carry out a first sampling and calculation within twelve months after (*insert the date of coming into force of this Regulation*) or, in the case of new equipment, within six months after the date on which the equipment is put into operation.

**DIVISION IV**  
**FUEL BURNING EQUIPMENT OR INDUSTRIAL**  
**FURNACES USING WOOD, WOOD WASTE OR**  
**PULP AND PAPER MILL WASTE AS FUEL**

**§1. Emission standards**

**72.** Fuel burning equipment using wood, wood waste or pulp and paper mill waste as fuel, alone or in combination with a fossil fuel, must not emit particles into the atmosphere in excess of the limits set out in the following table:

Rated power MW	Fuel used	Particle emission limits (mg of particles per cubic metre of dry gas at reference conditions)	
		Existing equipment	New equipment
≥3 and <10	Wood or wood waste, used alone or in combination with a fossil fuel	340	340
≥10	Wood or wood waste, used alone or in combination with a fossil fuel	100	70
≥3	Pulp and paper mill waste, used alone or in combination with a fossil fuel	100	70

In addition, only fuel burning equipment with a rated power equal to or greater than 3 MW may use fuel that consists of wood or wood waste containing or saturated with glue. In that case, the applicable particle emission limit is 100 milligrams of particles per cubic metre of dry gas at reference conditions for existing equipment and 70 milligrams of particles per cubic metre of dry gas at reference conditions for new equipment.

**73.** New fuel burning equipment with a rated power greater than 15 MW using one of the fuels referred to in section 62 for at least 50% of heat input must not emit nitrogen oxides into the atmosphere in excess of the limits prescribed in the first paragraph of that section for a rated heat capacity greater than 30 MW.

**74.** If the wood or wood waste used as fuel has been treated with a substance containing chromium, copper or arsenic, the fuel burning equipment must not emit into the atmosphere

(1) particles in excess of 100 mg/Rm<sup>3</sup> in the case of existing fuel burning equipment, or 70 mg/Rm<sup>3</sup> in the case of new equipment; or

(2) chromium, copper, or arsenic in such manner that the contaminant concentrations in the ambient air exceed the concentrations listed in Schedule G, using dispersion models in Schedule H.

**75.** If the wood or wood waste used as fuel has been treated with a product containing creosote or pentachlorophenol, the fuel burning equipment must not emit into the atmosphere

(1) carbon monoxide in a concentration that exceeds the limit of 114 mg/Rm<sup>3</sup> calculated on the average of the samplings taken over a period of 60 consecutive minutes; or

(2) particles in a concentration that exceeds the limit prescribed in paragraph 1 of section 74.

In addition, if the wood or wood waste used as fuel has been treated with a product containing pentachlorophenol, the fuel burning equipment must not emit polychlorinated dibenzofurans or polychlorinated dibenzo[b,e][1,4]dioxins into the atmosphere in excess of the limit of 0.08 ng/Rm<sup>3</sup>; the contaminant concentration in the combustion gases is calculated by adding the concentrations of each of the congeners listed in Schedule I and multiplying the sum obtained by the corresponding toxicity equivalency factor listed in that Schedule.

**76.** For the purposes of sections 72 and 73, paragraph 1 of section 74 and the first paragraph of section 75, the contaminant concentration is expressed on a dry basis corrected to 7% oxygen according to the following formula:

$$E = E_a \times \frac{13.9}{20.9 - A}$$

where

“E” is the corrected concentration;

“E<sub>a</sub>” is the uncorrected concentration on a dry basis; and

“A” is the percentage of oxygen on a dry basis in the combustion gases at the sampling site.

For the purposes of the second paragraph of section 75, the contaminant concentration is expressed on a dry basis corrected to 11% oxygen according to the following formula:

$$E = E_a \times \frac{9.9}{20.9 - A}$$

where

“E” is the corrected concentration;

“E<sub>a</sub>” is the uncorrected concentration on a dry basis; and

“A” is the percentage of oxygen on a dry basis in the combustion gases at the sampling site.

**77.** If wood or wood waste referred to in section 74 or 75 is used to supply an industrial furnace, the applicable particle emission limits are those prescribed, for the type of furnace used, in the provisions of Chapter X of Title II of this Regulation, or if those provisions do not apply, the provisions prescribed respectively for new stationary sources and for existing stationary sources in Schedules B and C.

Paragraph 2 of section 74 and the second paragraph of section 75 apply to industrial furnaces. Paragraph 1 of the first paragraph of section 75 also applies to industrial furnaces other than clinker kilns and lime kilns.

**78.** The use as fuel of wood or wood waste referred to in section 75 is permitted only in fuel burning equipment or an industrial furnace that has a destruction and removal efficiency equal to or greater than 99.99% for each of the following substances:

— pentachlorophenol; and

— each of the organic compounds present as a result of creosote treatment and which would be a hazardous material if the compound were the sole component of the fuel.

For the purposes of this section, destruction and removal efficiency is calculated using the following formula:

$$E_d = \frac{(Q_i - Q_s)}{Q_i} \times 100$$

where

“E<sub>d</sub>” is the destruction and removal efficiency of the substance;

“Q<sub>i</sub>” is the feed rate of the most thermally stable organic compound, expressed in kg/h; and

“Q<sub>s</sub>” is the rate of emission of the organic compound referred to in “Q<sub>i</sub>” that is present in the gases emitted, expressed in kg/h.

**79.** Where the combustion gases from equipment referred to in section 72 are used to dry wood or wood waste to be used as fuel, the particle emissions from the dryer are deemed to be part of the emissions from the attendant fuel burning equipment and are governed by the provisions of this Division, despite section 153.

## §2. Monitoring equipment

**80.** Fuel burning equipment referred to in section 72 with a rated power equal to or greater than 10 MW must be equipped with a sampling system in good working order that continuously measures and records the oxygen and carbon monoxide concentration of the gases emitted into the atmosphere.

Except for fuel burning equipment equipped with a wet scrubber, the sampling system must continuously measure and record the opacity or particle concentration of the gases emitted into the atmosphere.

The first paragraph also applies to fuel burning equipment and furnaces whose rated heat capacity or rated power, as the case may be, is equal to or greater than 3 MW and that are supplied with wood or wood waste that has been treated with a product containing a substance referred to in sections 74 and 75.

For the purposes of this section as regard opacity standards, all the fuel burning equipment emitting gases through a single stack constitutes a single unit of equipment.

The operator must retain the data for a minimum of four years.

**81.** A wet scrubber connected to fuel burning equipment with a rated power equal to or greater than 3 MW must be equipped with a system in good working order and accurate to within 0.5 kPa that continuously measures and records the gas pressure loss through the scrubber.

In addition, the wet scrubber must be equipped with a system that continuously measures and records the scrubbing liquid pressure, measured at the delivery pipe inlet using a pressure gauge accurate to within 10% of the rated pressure in that pipe.

The operator must retain the data for a minimum of four years.

**82.** A device capable of changing the flow resistance of the scrubbing liquids cannot be installed or used in a wet scrubber between the pressure gauge and the delivery pipe outlet.

### §3. Emission monitoring measures

**83.** The operator of fuel burning equipment referred to in any of sections 72 to 74 and the first paragraph of section 75 must perform source emissions testing of the gases emitted into the atmosphere by the equipment, calculate the rate of the contaminants referred to in the provisions applying to the equipment and for that purpose, measure each of the parameters necessary for the calculation

(1) at least once every three years in the case of equipment with a rated power equal to or greater than 3 MW and less than 10 MW ;

(2) at least once a year in the case of equipment with a rated power equal to or greater than 10 MW ; and

(3) at least once every two years in the case of sampling and analysis of nitrogen oxides from fuel burning equipment with a rated power equal to or greater than 15 MW.

In addition, the operator must carry out a first sampling and calculation within twelve months after (*insert the date of coming into force of this Regulation*) or, in the case of new equipment, within six months after the date on which the equipment is put into operation.

The operator must retain the data for a minimum of four years.

**84.** In addition to the emissions testing referred to in section 83, the operator of fuel burning equipment using fuel that consists of wood or wood waste treated with a product containing creosote or pentachlorophenol must, at least once a year, perform source emissions testing of the gases emitted into the atmosphere by the equipment, calculate the destruction and removal efficiency of the equipment for those substances in accordance with section 78 and for that purpose, measure each of the parameters necessary for the calculation.

If the wood or wood waste used has been treated with a product containing chromium, copper or arsenic, the operator must, at least once a year, perform source emissions testing of the gases emitted into the atmosphere and calculate the concentration of the contaminants referred to in paragraph 2 of section 74 in the ambient air in accordance with Schedule H.

In addition, the operator must carry out a first sampling and calculation within twelve months after (*insert the date of coming into force of this Regulation*) or after the date on which the treated wood or wood waste is first used as fuel if that date is subsequent to the former date.

The operator must retain the data for a minimum of four years.

The provisions of this section apply, with the necessary modifications, to the operator of an industrial furnace supplied with such a fuel.

## DIVISION V FUEL BURNING EQUIPMENT OR INDUSTRIAL FURNACES USING OTHER FUELS

### §1. Fuel burning equipment

**85.** Fuel burning equipment using fuel other than fuel referred to in Division III or IV must not emit particles into the atmosphere in excess of the limits prescribed in

(1) section 61, according to the rated heat capacity of the equipment, in the case of fuel that is exclusively in a liquid or gaseous state at the feed point ; or

(2) section 72, as regards equipment with a rated power equal to or greater than 10 MW, in all other cases.

This section does not apply to the use of fuel consisting of used oil in accordance with the second paragraph of section 26 of the Regulation respecting hazardous materials and amending various regulatory provisions.

**86.** Fuel burning equipment using fuel other than fuel referred to in Division III or IV must not emit nitrogen oxides into the atmosphere in excess of

(1) the limits prescribed in section 62, as regards fuel oil that has a nitrogen content exceeding 0.35% in the case of new equipment, or as regards light fuel oil in the case of equipment installed between 14 November 1979 and (*insert the date of coming into force of this Regulation*), according to the rated heat capacity of the equipment, if the fuel is exclusively in a liquid or gaseous state at the feed point ; or

(2) the limit of 125 grams of nitrogen oxide per gigajoule supplied by the fuel in the case of new equipment with a rated power greater than 15 MW and where the liquid and gaseous fuel input is at least 50% of the total heat input.

**87.** The use in fuel burning equipment of fuel other than fuel referred to in Division III or IV is also subject to the following emission limits and other standards:

(1) the fuel burning equipment must have a rated heat capacity or rated power, as the case may be, of at least 3 MW, subject in the case of used oil to the provisions of section 26 of the Regulation respecting hazardous materials and amending various regulatory provisions;

(2) an emission limit of 114 mg/Rm<sup>3</sup> for carbon monoxide, calculated as the average of the emissions over a period of 60 consecutive minutes. If the features of the fuel burning equipment used do not allow compliance with that limit, the applicable limit is established as the hourly average of carbon monoxide emission results obtained during burning tests at a total hydrocarbon concentration in the combustion gases equal to or less than 20 ppm;

(3) a limit of 0.15% by weight of total halogens at the feed point;

(4) an emission limit of 0.08 ng/Rm<sup>3</sup> for polychlorinated dibenzofuran and polychlorinated dibenzo[b,e][1,4]dioxin congeners if chlorinated organic compounds are present in the fuel used. The contaminant concentration in combustion gases is calculated by adding the concentrations of each of the congeners listed in Schedule I and multiplying the sum obtained by the corresponding toxicity equivalency factor listed in that Schedule; and

(5) a destruction and removal efficiency equal to or greater than 99.99% for each of the following substances:

— any organic compound in fuel consisting of a residual hazardous material that would be a hazardous material if it were the sole component of the fuel; and

— any halogenated organic compound present in a gaseous effluent used as fuel and originating from a process.

The contaminant concentration measured pursuant to this section is expressed on a dry basis corrected to 7% oxygen according to the formula in the first paragraph of section 76.

Despite the foregoing, the contaminant concentration measured pursuant to subparagraph 4 is expressed on a dry basis corrected to 11% oxygen according to the formula in the second paragraph of section 76.

For the purposes of this section, destruction and removal efficiency is calculated using the following formula:

$$E_d = \frac{Q_i - Q_s}{Q_i} \times 100$$

where

“E<sub>d</sub>” is the destruction and removal efficiency of the organic compound concerned;

“Q<sub>i</sub>” is the feed rate expressed in kg/h of the most thermally stable organic compound concerned by the prescribed destruction and removal efficiency; and

“Q<sub>s</sub>” is the rate of emission of the organic compound referred to “Q<sub>i</sub>” that is present in the gases emitted, expressed in kg/h.

Subparagraphs 2, 4 and 5 do not apply to used oil used in accordance with the second paragraph of section 26 of the Regulation respecting hazardous materials and amending various regulatory provisions.

In addition, subparagraph 5 does not apply to fuel consisting exclusively of used oil that has a contaminant content meeting the standards in Schedule 6 to the Regulation respecting hazardous materials and amending various regulatory provisions.

**88.** The use as fuel in fuel burning equipment of residual hazardous materials that have a PCB content exceeding 50 mg/kg is prohibited, as is the use of halogenated organic compounds in a concentration such that they constitute toxic materials.

If the fuel used is not fuel referred to in Divisions III and IV and contains a contaminant listed in Schedule G, the fuel burning equipment in which it is used, except equipment referred to in the second paragraph of section 26 of the Regulation respecting hazardous materials and amending various regulatory provisions, must not emit the contaminant into the atmosphere in such manner that its concentration in the ambient air exceeds the concentrations prescribed in that Schedule according to an air dispersion model conforming to the dispersion model in Schedule H.

The first paragraph does not apply to fuel consisting exclusively of used oil that has a contaminant content meeting the standards in Schedule 6 to the Regulation respecting hazardous materials and amending various regulatory provisions.

## §2. *Industrial furnaces*

**89.** An industrial furnace using fuel other than fuel referred to in Division III or IV must not emit particles into the atmosphere in excess of the emission limit prescribed in Chapter X of Title II for that type of industrial furnace or, in the absence of such provisions, in the provisions prescribed for new stationary sources and for existing stationary sources in Schedules B and C.

The use in an industrial furnace of combustible materials other than those referred to in Division III or IV is subject to the following emission limits and other standards:

(1) the furnace must have a rated heat capacity of at least 3 MW, subject in the case of used oil to section 26 of the Regulation respecting hazardous materials and amending various regulatory provisions; and

(2) an emission limit of 114 mg/Rm<sup>3</sup> for carbon monoxide calculated over a period of 60 consecutive minutes.

Where the features of the furnace used do not allow compliance with that limit, the applicable limit for carbon monoxide is the hourly average of carbon monoxide emission results obtained during burning tests at a total hydrocarbon concentration in the combustion gases equal to or less than 20 ppm;

(3) a limit of 0.15% by weight of total halogen at the feed point for each fuel used to which this Division applies that does not contain a residual hazardous material;

(4) a destruction and removal efficiency equal to or greater than 99.9999% for each of the following substances contained in the fuel if the fuel consists of a residual hazardous material:

— any halogenated organic compound in a concentration such that the fuel containing it at the feed point is a toxic material;

— any halogenated organic compound if its total halogen content in the fuel containing it at the feed point is greater than 0.15% by weight; and

— any PCB where the total PCB concentration in the fuel containing the PCB at the feed point is greater than 50 mg/kg;

(5) a destruction and removal efficiency equal to or greater than 99.99% for each of the following substances:

— any organic compound in fuel consisting of a residual hazardous material which would be a hazardous material if it were the sole component of the fuel; and

— any halogenated organic compound present in a gaseous effluent used as fuel and originating from a process;

(6) if the fuel used contains a contaminant listed in Schedule G, the furnace must not emit such a contaminant into the atmosphere in such manner that its concentration in the ambient air exceeds the concentration prescribed in that Schedule according to an air dispersion model conforming to the dispersion model in Schedule H; and

(7) an emission limit of 0.08 ng/Rm<sup>3</sup> for polychlorinated dibenzofuran and polychlorinated dibenzo[b,e][1,4]dioxin congeners if chlorinated organic compounds are present in the fuel used. The calculation of the contaminant concentration must take into account the toxicity equivalency factors listed in Schedule I.

Subparagraphs 2, 6 and 7, the first element of subparagraph 4, and subparagraph 5 do not apply to the use of used oil as fuel in accordance with the second paragraph of section 26 of the Regulation respecting hazardous materials and amending various regulatory provisions.

In addition, subparagraph 2 does not apply to

— clinker kilns;

— lime kilns; or

— furnaces with a destruction and removal efficiency prescribed by this Regulation that is equal to or greater than 99.9999%.

For the purposes of subparagraphs 4 and 5, the destruction and removal efficiency is calculated using the formula in the fourth paragraph of section 87.

Subparagraphs 4 and 5 do not apply to fuel consisting solely of used oil that has a contaminant content meeting the standards in Schedule 6 to the Regulation respecting hazardous materials and amending various regulatory provisions.

**90.** For the purposes of section 89, the concentration of the contaminants emitted is expressed on a dry basis corrected to 7% oxygen according to the formula in the first paragraph of section 76.

Despite the foregoing, the contaminant concentration calculated pursuant to section 89 is expressed on a dry basis corrected to 11% oxygen according to the formula in the second paragraph of section 76.

**91.** The use in an industrial furnace of the combustible materials referred to in subparagraph 4 of the second paragraph of section 89 is also subject to the following emission limits and other standards :

(1) an emission limit for hydrogen chloride of 50 mg/Rm<sup>3</sup>, expressed on a dry basis corrected to 11% oxygen according to the formula in the second paragraph of section 76;

(2) the fuels for which section 89 prescribes a destruction and removal efficiency equal to or greater than 99.9999% must not be introduced into the furnace before the combustion chamber and accessory equipment have reached and maintained normal operating temperature for a minimum of 60 minutes;

(3) the combustion chamber and accessory equipment must be maintained at normal operating temperature for a minimum of 30 minutes after the last combustible materials for which section 89 prescribes a destruction and removal efficiency equal to or greater than 99.9999% have been introduced into the furnace, or for a minimum of 10 minutes after the introduction of those materials if they are in a liquid state; and

(4) the furnace, except a clinker kiln or lime kiln, must be equipped with an emergency device that stops the supply of combustible materials if the carbon monoxide concentration in the combustion gases exceeds the limit of 57 mg/Rm<sup>3</sup> for one minute.

### §3. *Monitoring equipment*

**92.** The fuel burning equipment referred to in section 85 or 86 with a rated heat capacity or rated power, as the case may be, equal to or greater than 3 MW and every industrial furnace referred to in section 89 must be equipped with a sampling system in good working order that continuously measures and records the oxygen and carbon monoxide concentration in the gases emitted into the atmosphere.

In addition, if the fuel burning equipment or industrial furnace has a rated heat capacity or a rated power, as the case may be, greater than 15 MW, the sampling system required under the first paragraph must also continuously measure and record the particle concentration or opacity of the gases emitted into the atmosphere, except for fuel burning equipment or a furnace equipped with a wet scrubber.

Fuel burning equipment referred to in the second paragraph must be equipped with a sampling system that continuously measures and records the concentration of

nitrogen oxides emitted into the atmosphere if fuels in a liquid or gaseous state constitute at least 50% of the total heat input.

For the purposes of the first paragraph, all fuel burning equipment or a series of furnaces is considered to be a single unit of equipment or, as the case may be, a single furnace if the combustion gases are emitted through a single stack.

An industrial furnace using combustible materials for which section 89 prescribes a destruction and removal efficiency equal to or greater than 99.9999% must be equipped with a sampling system in good working order that continuously measures and records the feed rate of the materials and the hydrogen chloride concentration in the gas emissions. Sections 81 and 82 apply, with the necessary modifications, to the industrial furnaces to which this section applies.

The operator must retain the data for a minimum of four years.

### §4. *Emission monitoring measures*

**93.** The operator of fuel burning equipment referred to in section 85, 86 or subparagraph 2 or 4 of the first paragraph of section 87, or of an industrial furnace referred to in subparagraph 2 or 7 of the second paragraph of section 89 or paragraph 1 of section 91, must perform source emissions testing of the gases emitted by the equipment or, as the case may be, by the furnace, calculate the rate or concentration of the contaminants listed in the applicable provisions and for that purpose, measure each of the parameters necessary for the calculation

(1) at least once every three years for fuel consisting of used oil meeting the standards in Schedule 6 to the Regulation respecting hazardous materials and amending various regulatory provisions; and

(2) at least once a year for equipment or a furnace supplied with fuel other than fuel referred to in subparagraph 1.

The operator must carry out a first sampling and calculation within twelve months after (*insert the date of coming into force of this Regulation*) or, in the case of new equipment or a new furnace, within six months after the date on which the equipment or furnace is put into operation.

The operator must retain the data for a minimum of four years.

**94.** The operator of fuel burning equipment to which the second paragraph of section 88 refers or an industrial furnace to which subparagraph 6 of the second paragraph of section 89 refers must, as regards the contaminants listed in Schedule G, perform source emissions testing of the gases emitted into the atmosphere by the equipment or furnace and calculate their concentration in the ambient air using an air dispersion model conforming to the dispersion model in Schedule H

(1) at least every three years if the fuel used consists of used oil meeting the standards in Schedule 6 to the Regulation respecting hazardous materials and amending various regulatory provisions; and

(2) at least once a year for equipment or a furnace supplied with fuel other than fuel referred to in subparagraph 1.

The operator must carry out the first sampling and calculation within twelve months after (*insert the date of coming into force of this Regulation*) or, in the case of new equipment or a new furnace, within six months after the date on which the equipment or furnace is put into operation.

The operator must retain the data for a minimum of four years.

**95.** The operator of fuel burning equipment or an industrial furnace in respect of which subparagraph 5 of the first paragraph of section 87 or subparagraph 4 or 5 of the second paragraph of section 89 prescribes a destruction and removal efficiency percentage for certain contaminants must calculate the destruction and removal efficiency annually in accordance with the fourth paragraph of section 87 and for that purpose, take samples of the contaminants and measure each of the parameters necessary for the calculation.

If the composition of a fuel consisting of a residual hazardous material is modified after the calculation of the destruction and removal efficiency referred to in the first paragraph by the introduction of an organic compound that is more thermally stable than the compound for which the destruction and removal efficiency has been calculated, the operator must immediately carry out a new sampling and calculation of the destruction and removal efficiency for that compound.

In addition, the operator must carry out the first sampling and calculation within twelve months after (*insert the date of coming into force of this Regulation*) or, in the case of new equipment or a new furnace, within six months after the date on which the equipment or furnace is put into operation.

The operator must retain the data for a minimum of four years.

**96.** The operator of fuel burning equipment or an industrial furnace using fuel that contains residual hazardous materials must maintain a record, for each fuel batch, of

(1) the number or identification code assigned by the operator to each fuel batch and the quantity in kilograms;

(2) the date of use;

(3) its PCB and total halogen content, expressed in mg/kg of fuel, at the equipment or furnace feed point;

(4) the concentration of each organic compound present in the fuel, expressed in mg/kg of fuel, at the equipment or furnace feed point; and

(5) the concentration of each contaminant listed in Schedule G present in the fuel, expressed in mg/kg of fuel, at the equipment or furnace feed point.

The operator must retain the record for a minimum of four years after the date of the last entry.

Fuel consisting solely of used oil meeting the standards in Schedule 6 to the Regulation respecting hazardous materials and amending various regulatory provisions is excluded from the application of this section.

## CHAPTER VIII LIMIT VALUES AND OTHER STANDARDS APPLICABLE TO INCINERATION PLANTS

### DIVISION I INTERPRETATION

**97.** In this Chapter, unless the context indicates otherwise,

“conical burner” means any burner used in the thermal destruction of wood waste, known as a “teepee”, “wigwam” or “silo burner”; (*brûleur conique*)

“design feed rate” means the maximum rate expressed in kilograms per hour at which material may be fed into an incinerator as specified by the manufacturer or, if an authorization certificate issued by the Minister of Sustainable Development, Environment and Parks for the incinerator provides for a different rate, the rate indicated in the certificate; (*capacité nominale d'alimentation*)



“incinerator” means all the equipment or devices used or intended to be used for the thermal destruction of substances other than wood or wood waste. (*incinérateur*)

**98.** This Chapter does not apply to crematoriums, animal incinerators or facilities incinerating

(1) household garbage collected by or for a municipality; or

(2) sludge from municipal water or sludge treatment or collection works, from other sanitary wastewater collection or treatment works or from treatment works for sludge from such works, or sludge from sewer cleaning.

## DIVISION II

### GENERAL EMISSION STANDARDS AND OTHER STANDARDS APPLICABLE TO INCINERATORS

#### §1. General

**99.** An incinerator must not emit, on the average, combustion gases into the atmosphere that contain carbon monoxide in a concentration in excess of the limits set out in the following table:

Type of incinerated materials	Carbon monoxide emission limits	
	(mg/Rm <sup>3</sup> )	Period for which the average is calculated (minutes)
Residual hazardous materials	100	20
Biomedical waste	114	60
Other residual materials	57	240

This section does not apply to incinerators used for the destruction of residual hazardous materials for which destruction and removal efficiency standards of 99.9999% are prescribed.

**100.** An incinerator must not emit combustion gases into the atmosphere that contain

(1) more than 20 mg/Rm<sup>3</sup> of particles. That limit is raised to 50 mg/Rm<sup>3</sup> if the incinerator's design feed rate is less than one metric tonne per hour and no biomedical waste is burned;

(2) more than 50 mg/Rm<sup>3</sup> of hydrogen chloride. That limit may be exceeded, without exceeding 100 mg/Rm<sup>3</sup>, in the case of a facility with a design feed rate of less

than one metric tonne per hour that does not burn biomedical waste or residual hazardous materials for which the applicable standards require a destruction and removal efficiency greater than 99.9999%;

(3) more than 150 mg/Rm<sup>3</sup> of dioxide sulphur if the facility receives residual hazardous materials; or

(4) more than 0.08 ng/Rm<sup>3</sup> of polychlorinated dibenzofuran or polychlorinated dibenzo[b,e][1,4]dioxin congeners; the concentration of those contaminants in the combustion gases is calculated by adding the concentrations of each of the congeners listed in Schedule I and multiplying the sum obtained by the corresponding toxicity equivalency factor listed in that Schedule.

Subparagraphs 1 to 3 do not apply to an incinerator used to scrub a gas effluent generated by an industrial process.

In addition, subparagraph 4 does not apply to such an incinerator if the effluent does not contain halogenated organic compounds.

Subparagraph 4 takes effect on 1 March 2006.

**101.** As of 1 March 2006, an incinerator must not, according to the type of incinerated materials or the class of incinerator, emit mercury into the atmosphere in excess of the following prescribed limits:

(1) 40 µg/Rm<sup>3</sup> in the case of biomedical waste incinerated in an incinerating facility with a design feed rate of less than one tonne per hour;

(2) 50 µg/Rm<sup>3</sup> in the case of residual hazardous materials; or

(3) 20 µg/Rm<sup>3</sup> in cases other than those referred to in paragraphs 1 and 2.

**102.** For the purposes of sections 100 and 101, the contaminant concentration is expressed on a dry basis corrected to 11% oxygen according to the formula in the second paragraph of section 76.

**103.** Every incinerator must have a destruction and removal efficiency during incineration equal to or greater than 99.9999% for the following substances present in each residual hazardous material:

— any halogenated organic compound if the concentration at the feed point is such that the residual hazardous material containing the compound constitutes a toxic material;

— any halogenated organic compound if its total halogen concentration in the residual hazardous material containing the compound at the feed point is equal to or greater than 0.2% by weight; and

— any PCB where the total PCB concentration in the fuel containing the PCB at the feed point is greater than 50 mg/kg.

The destruction and removal efficiency must be equal to or greater than 99.99% for the organic compounds present in the residual hazardous materials other than the organic compounds referred to in the first paragraph that would be hazardous materials as the sole component of a material.

The destruction and removal efficiency is calculated using the formula in the fourth paragraph of section 87.

This section does not apply to used oil meeting the standards in Schedule 6 to the Regulation respecting hazardous materials and amending various regulatory provisions.

## §2. Installation and operation

**104.** An incinerator with a design feed rate of less than one tonne per hour and a biomedical waste incinerator must have a primary combustion chamber and at least one secondary combustion chamber. Gases from the combustion of residual materials in the primary combustion chamber must be brought to a temperature greater than 1,000 °C for at least one second when they reach the final secondary combustion chamber.

**105.** An incinerator with a design feed rate of less than one tonne per hour, a biomedical waste incinerator and a residual hazardous materials incinerator must be equipped with auxiliary gas or liquid fossil fuel burners.

**106.** Materials to be incinerated must not be introduced during the preheating of the final secondary combustion chamber or be ignited in the primary chamber of a biomedical waste incinerator or an incinerator with a design feed rate of less than one tonne per hour until the temperature of the secondary combustion chamber has been maintained at a temperature of at least 1,000 °C for a minimum of 15 minutes.

**107.** Residual hazardous materials must not be fed into an incinerator during start-up until the temperature of the incinerator and accessory equipment has been maintained at normal operating temperature for a minimum of 60 minutes.

**108.** If residual hazardous materials are incinerated, the combustion incinerator must be maintained at normal operating temperature for a minimum of 30 minutes after the last solid residual hazardous materials have been introduced or for a minimum of 10 minutes in the case of liquid or gaseous materials.

**109.** A residual hazardous materials or biomedical waste incinerator with a design feed rate equal to or greater than one tonne per hour must be equipped with an emergency device that stops the supply of residual hazardous materials or waste if the concentration of hydrogen chloride and carbon monoxide exceeds the limit prescribed in section 99 or subparagraph 2 of the first paragraph of section 100.

A residual hazardous materials incinerator for which a destruction and removal efficiency of 99.9999% is required must be equipped with an emergency device that stops the supply of waste if the concentration of carbon monoxide in the combustion gases, on a dry basis corrected to 11% oxygen, exceeds 57 mg/Rm<sup>3</sup> for one minute.

**110.** Section 99, subparagraphs 3 and 4 of the first paragraph of section 100, paragraph 3 of section 101, sections 102, 103, 107 and 108, the second paragraph of section 109 and sections 111 and 112 apply, with the necessary modifications, to the heat treatment of contaminated soils.

In addition, the particle standard of 20 mg/Rm<sup>3</sup> and the hydrogen chloride standard of 50 mg/Rm<sup>3</sup> apply to the emission into the atmosphere of combustion gases from the heat treatment of contaminated soils.

## §3. Monitoring equipment

**111.** An incinerator must be equipped with a sampling system in good working order that continuously measures and records the concentration of carbon monoxide, carbon dioxide and oxygen in the combustion gases emitted into the atmosphere. The incinerator must also be equipped with a system in good working order that continuously measures and records the gas temperature at the combustion chamber outlet or, in the case of a system equipped with more than one combustion chamber, at the outlet of the final chamber.

An incinerator with a design feed rate of one tonne or more per hour must be equipped with a sampling system in good working order that continuously measures and records the opacity of the combustion gases or the concentration of the particles emitted into the atmosphere.

An incinerator with a design feed rate of two tonnes or more per hour that burns halogenated materials must be equipped with a sampling system that continuously measures and records the concentration of hydrogen chloride in the combustion gases emitted into the atmosphere.

The operator must retain the data for a minimum of four years.

**112.** A residual hazardous materials incinerator with a design feed rate greater than one tonne per hour must be equipped with a system in good working order that continuously measures and records the feed rate of the materials.

The operator must retain the data for a minimum of four years.

#### *§4. Emission monitoring measures*

**113.** The operator of an incinerator with a design feed rate equal to or greater than one tonne per hour must, at least once a year, perform source emissions testing of the combustion gases emitted into the atmosphere, calculate the emission rate or concentration of the contaminants referred to in sections 99 to 101 and section 110, if applicable, and for that purpose, measure each of the parameters necessary for the calculation.

In the case of an incinerator with a design feed rate of less than one tonne per hour, the testing prescribed in the first paragraph must be performed at least every three years.

The operator must retain the data for a minimum of four years.

**114.** The operator of an incinerator for which section 100 or 107 prescribes a destruction and removal efficiency for certain contaminants must, at least once a year, calculate the destruction and removal efficiency for each contaminant referred to in that section as provided in the third paragraph of section 103 and, for that purpose, take samples of the contaminants and measure each of the parameters necessary for the calculation.

If the composition of the residual hazardous materials is modified after the calculation of the destruction and removal efficiency referred to in the first paragraph by the introduction of a contaminant that is more thermally stable than the contaminant for which the destruction and removal efficiency has been calculated, the operator must immediately carry out a new sampling and calculation of the destruction and removal efficiency for that contaminant.

The operator must retain the data for a minimum of four years.

**115.** The operator of a residual hazardous materials incinerator must maintain a record, for each batch of residual hazardous materials, of

(1) the number or identification code assigned by the operator to each batch of residual hazardous materials and the quantity in kilograms;

(2) the incineration date for each batch;

(3) the total PCB concentration and total halogen content in each batch at the feed point, expressed in mg/kg of residual hazardous materials; and

(4) the content of each organic compound present in the residual hazardous materials for each batch at the feed point, expressed in mg/kg of residual hazardous materials.

The operator must retain the record for a minimum of four years following the date of the last entry.

This section does not apply to residual hazardous materials consisting solely of used oil meeting the standards in Schedule 6 to the Regulation respecting hazardous materials and amending various regulatory provisions.

### **DIVISION III** EMISSION STANDARDS AND OTHER STANDARDS APPLICABLE TO CONICAL BURNERS

**116.** The building or erection of a conical burner is prohibited.

As of 1 March 2006, the operation of a conical burner that is unable to maintain burner particle emissions below 100 mg/Rm<sup>3</sup> at all times is prohibited.

**117.** The operation of a conical burner to burn residual materials other than wood waste from sawing operations is prohibited.

Wood waste used to feed a burner must be free of any foreign material or substance other than soil or sand.

**CHAPTER IX**  
EMISSION LIMIT VALUES AND OTHER  
STANDARDS APPLICABLE TO ANIMAL  
INCINERATORS AND CREMATORIIUMS

**DIVISION I**  
INTERPRETATION

**118.** In this Chapter,

“animal incinerator” means any facility used to burn animal carcasses and animal parts exclusively; (*incinérateur d’animaux*)

“crematorium” means any facility used to reduce dead human bodies, human remains and stillborn babies to ashes by cremation. (*crématorium*)

**DIVISION II**  
EMISSION STANDARDS AND OTHER STANDARDS

**119.** A crematorium or animal incinerator must not emit particles into the atmosphere in a concentration exceeding 70 mg/Rm<sup>3</sup>. That concentration is calculated over the entire cremation or incineration cycle or over a period of not more than two hours from the time the burner is ignited. It is expressed on a dry basis corrected to 11% oxygen according to the formula in section 102.

Sections 104 to 107 apply, with the necessary modifications, to the operation and design of a crematorium and an animal incinerator.

**120.** Only dead human bodies, human remains and stillborn babies may be cremated in a crematorium.

Only animal carcasses and animal parts excluded from the application of the Regulation respecting biomedical waste may be incinerated in an animal incinerator.

**121.** The operation of a crematorium or animal incinerator having only one combustion chamber is prohibited.

**DIVISION III**  
MONITORING EQUIPMENT

**122.** The final combustion chamber in a crematorium or animal incinerator must be equipped at its outlet with a sampling system in good working order that continuously measures and records gas temperature.

The operator must retain the data for a minimum of four years.

**DIVISION IV**  
EMISSION MONITORING MEASURES

**123.** The operator of a crematorium or animal incinerator must, at least once every five years, perform source emissions testing of the gases emitted into the atmosphere, calculate the particle concentration and for that purpose, measure each of the parameters necessary for the calculation.

The operator must retain the data for a minimum of four years.

**CHAPTER X**  
EMISSION LIMIT VALUES AND OTHER  
STANDARDS APPLICABLE TO CERTAIN  
INDUSTRIAL SOURCES OF CONTAMINATION

**DIVISION I**  
ALUMINUM SMELTERS

*§1. Interpretation*

**124.** In this Division, unless the context indicates otherwise,

“potline” means a group of pots in an aluminum smelter electrically connected in series; (*série de cuves*)

“total fluorides” means the sum of fluorides emitted as gases and fluorides emitted as particles. (*fluorures totaux*)

*§2. Emission standards applicable to existing aluminum smelter potlines*

**125.** An existing centre-worked prebaked anode type potline in an aluminum smelter must not emit total fluorides into the atmosphere in excess of an annual limit of 0.95 kilograms per tonne of aluminum produced, or in excess of a monthly limit of 1.25 kilograms per tonne of aluminum produced.

**126.** An existing vertical stud Soderberg potline in an aluminum smelter must not emit total fluorides into the atmosphere in excess of a monthly limit of 2.5 kilograms per tonne of aluminum produced.

Such a potline must not emit particles into the atmosphere in excess of an annual limit of 10 kilograms per tonne of aluminum produced, or in excess of a monthly limit of 11 kilograms per tonne of aluminum produced.

Such a potline must not emit PAHs into the atmosphere in excess of an average annual limit of 0.3 kilograms per tonne of aluminum produced.

**127.** As of 1 March 2006, a potline referred to in section 126 must not emit total fluorides into the atmosphere in excess of an annual limit of 1.8 kilograms per tonne of aluminum produced, or in excess of a monthly limit of 2.25 kilograms per tonne of aluminum produced.

**128.** As of 1 January 2010, a potline referred to in section 126 must not emit total fluorides into the atmosphere in excess of an annual limit of 1.5 kilograms per tonne of aluminum produced, or in excess of a monthly limit of 2 kilograms per tonne of aluminum produced.

As of that date, such a potline must not emit particles into the atmosphere in excess of an annual limit of 8 kilograms per tonne of aluminum produced, or in excess of a monthly limit of 9 kilograms per tonne of aluminum produced.

In addition, as of that date, such a potline must not emit PAHs into the atmosphere in excess of an annual limit of 0.2 kilograms per tonne of aluminum produced.

**129.** As of 1 March 2006, an existing horizontal stud Soderberg potline in an aluminum smelter must not emit total fluorides into the atmosphere in excess of an annual limit of 3.5 kilograms per tonne of aluminum produced, or in excess of a monthly limit of 4 kilograms per tonne of aluminum produced.

As of that date, such a potline must not emit particles into the atmosphere in excess of an annual limit of 16 kilograms per tonne of aluminum produced, or in excess of a monthly limit of 18 kilograms per tonne of aluminum produced.

In addition, as of that date, such a potline must not emit PAHs into the atmosphere in excess of an annual limit of 1.05 kilograms per tonne of aluminum produced.

**130.** As of 1 January 2015, a potline referred to in section 129 must not emit total fluorides into the atmosphere in excess of an annual limit of 1.35 kilograms per tonne of aluminum produced, or in excess of a monthly limit of 1.5 kilograms per tonne of aluminum produced.

As of that date, such a potline must not emit particles into the atmosphere in excess of an annual limit of 7 kilograms per tonne of aluminum produced, or in excess of a monthly limit of 8 kilograms per tonne of aluminum produced.

In addition, as of that date, such a potline must not emit PAHs into the atmosphere in excess of an annual limit of 0.2 kilograms per tonne of aluminum produced.

**131.** As of 1 March 2006, an existing side-worked prebaked anode type potline must not emit total fluorides into the atmosphere in excess of an annual limit of 4.5 kilograms per tonne of aluminum produced, or in excess of a monthly limit of 5 kilograms per tonne of aluminum produced.

Such a potline must not emit particles into the atmosphere in excess of an annual limit of 14 kilograms per tonne of aluminum produced, or in excess of a monthly limit of 15 kilograms per tonne of aluminum produced.

**132.** As of 1 January 2015, a potline referred to in section 131 must not emit total fluorides into the atmosphere in excess of an annual limit of 1.35 kilograms per tonne of aluminum produced, or in excess of a monthly limit of 1.5 kilograms per tonne of aluminum produced.

As of that date, such a potline must not emit particles into the atmosphere in excess of an annual limit of 7 kilograms per tonne of aluminum produced, or in excess of an average monthly limit of 8 kilograms per tonne of aluminum produced.

**133.** For the purposes of sections 125 to 132,

(1) the monthly emission limit for total fluorides or particles from a potline is calculated as the sum of the emissions measured at the potline roof vents over four consecutive weeks and the emissions measured annually at the potline scrubber stack;

(2) the annual emission limit for total fluorides and particles from a potline is calculated as the annual average of the emissions measured monthly at the potline roof vents and the emissions measured annually at the potline scrubber stack; and

(3) the annual emission limit for PAHs from a potline is calculated as the sum of the average of the emissions measured every three months at the potline roof vents and the emissions measured annually at the potline scrubber stack.

*§3. Emission standards applicable to new aluminum smelter potlines*

**134.** A new aluminum smelter potline must not emit total fluorides into the atmosphere in excess of the limits prescribed in section 125.

*§4. Fluoride standards in forage and other standards*

**135.** In addition to the limits prescribed in sections 125 to 134, an aluminum smelter must not emit or discharge total fluorides into the environment in such manner that

the fluoride concentration in forage for feeding animals measured in samples taken off the property of the contamination source exceeds the following limits :

- (1) an annual average of 40 ppm on a dry basis;
- (2) a monthly average of 60 ppm on a dry basis over two consecutive months;
- (3) a monthly average of 80 ppm on a dry basis.

The monthly average fluoride concentration may once a year exceed the limit of 80 ppm prescribed in subparagraph 3. It may also exceed the limit of 60 ppm prescribed in subparagraph 2 as long as the limit is not exceeded for two consecutive months.

**136.** An anode baking furnace used in an aluminum smelter must not emit total fluorides into the atmosphere in excess of the limit of 0.1 kilograms per tonne of anodes produced or PAHs in excess of the limit of 0.05 kilograms per tonne of anodes produced.

#### §5. *Monitoring equipment*

**137.** The operator of an aluminum smelter must install, on each potline gas scrubber connected to the ventilation system, a continuous gas measuring and recording device that enables the operation of the scrubber to be verified at any time, and must maintain the device in good working order.

The device,

- (1) in the case of a wet scrubber,
  - (a) must be designed to continuously measure and record gas pressure loss through the scrubber using a differential pressure gauge accurate within at least 0.5 kPa;
  - (b) must be designed to continuously measure and record scrubbing liquid pressure, measured at the delivery pipe inlet using a pressure gauge accurate within at least 10% of rated pressure in the delivery pipe; and
  - (c) must be designed to measure and record scrubbing liquid pH using a device accurate within at least 20%; and
- (2) in the case of a dry scrubber, must be designed to detect any malfunction.

Subparagraph 2 of the second paragraph takes effect on 1 March 2006.

**138.** For emissions measured at the roof vents, the operator of an aluminum smelter must install and maintain in good working order, in addition to the device referred to in section 137, a continuous total fluoride and particle sampling system for each potline or a continuous gaseous fluoride measuring and recording system.

#### §6. *Emission monitoring measures*

**139.** The operator of an aluminum smelter must, at least once every five years, for each scrubber connected to a potline and for all the roof vents of the potline, measure the contaminants referred to in sections 125 to 134 that are emitted into the atmosphere.

The use of a gaseous fluoride measuring system for the purposes of this section is prohibited.

The operator must also maintain a record of the quantities of coke and pitch used in the process and their sulphur content.

Within 120 days following the end of the calendar year, an annual statement of the sulphur quantities relating to the smelter's operations must be sent to the Minister of Sustainable Development, Environment and Parks.

The operator must retain the data for a minimum of four years.

**140.** The operator of an anode baking furnace referred to in section 136 must, at least once a year, perform source emissions testing of total fluorides, calculate the rate and for that purpose, measure each of the parameters necessary for the calculation.

The operator must retain the data for a minimum of four years.

## DIVISION II CEMENT PLANTS

### §1. *Emission standards*

**141.** A cement plant kiln or clinker cooler must not emit particles into the atmosphere in excess of the limits set out in the following table :

Emission source	Particle emission limits (in g/t of clinker)	
	Existing facilities	New facilities
Kiln	240	150
Clinker cooler	150	125

As of 1 March 2006, a kiln and a clinker cooler in an existing cement plant must not emit particles into the atmosphere in excess of the limit respectively of 150 and 125 grams of particles per tonne of clinker produced.

**142.** A source of sporadic emission from a cement plant other than a kiln or a clinker cooler must not emit particles into the atmosphere in a concentration greater than 30 mg/Rm<sup>3</sup>.

### §2. Emission monitoring measures

**143.** The operator of a cement plant referred to in section 141 must, at least once a year, for each kiln and clinker cooler, perform emissions testing of the gases emitted into the atmosphere, calculate the particle rate and for that purpose, measure each of the parameters necessary for the calculation.

The operator must retain the data for a minimum of four years.

### §3. Monitoring equipment

**144.** A cement plant must be equipped with a sampling system in good working order that continuously measures and records the opacity of the gases emitted into the atmosphere by the kiln and the clinker cooler, or their particle concentration.

The operator must retain the data for a minimum of four years.

The first and second paragraphs do not apply if the kiln or the clinker cooler is equipped with a fabric filter gas scrubber, provided that the scrubber is equipped with a leak or malfunction detection and recording device.

## DIVISION III STEEL MILLS

### §1. Interpretation and scope

**145.** In this Division, unless the context indicates otherwise, “cupola” means a shaft-type furnace used for melting cast iron and includes all auxiliary equipment required for its operation.

The particle emission limits prescribed in this Division apply comprehensively to all the emissions that are incidental to the operation of a furnace in a cast iron or steel production process, including the emissions from loading, raw material preheating, refining, ladle casting and mould casting.

### §2. Particle and carbon monoxide emission standards applicable to cast iron or steel production processes

**146.** A cast iron or steel melting process must not emit particles into the atmosphere in excess of the emission limits listed in Schedule F.

If a cupola is used, it must not emit carbon monoxide into the atmosphere in a concentration greater than 1,000 ppm.

**147.** Despite section 146, a cast iron or steel melting process with a feed rate greater than 2.5 tonnes per hour and less than or equal to 10 tonnes per hour must not emit more than 9.4 kilograms of particles per hour into the atmosphere.

**148.** Despite section 146, a cast iron or steel melting process with a feed rate of less than 2.5 tonnes per hour is not subject to any particle emission limit.

### §3. Emission standards applicable to certain activities

**149.** The activities of metal casting, cutting, shake-out, grit blasting, grinding or sanding castings, preparation of the casting sand and core making in a cast iron or steel foundry must take place in the presence of a local ventilation system and must not emit or have the effect of emitting particles into the atmosphere in a concentration greater than 30 mg/Rm<sup>3</sup> for each emission point.

### §4. Emission monitoring measures

**150.** The operator of a steel mill with production equal to or greater than 5,000 metric tonnes per year must, at least once a year, take samples of the stack gases from the scrubbers connected to the furnace and, every three years, take samples of the gases from the building housing the furnaces and of the stack gases from the scrubbers connected to the furnace, calculate the rate or concentration, as the case may be, of the contaminants to which this Division applies, and for that purpose, measure each of the parameters necessary for the calculation and determination of the applicable limit.

The operator must also take a first sample of the gases from the building housing the furnaces within two years after (*insert the date of coming into force of this Regulation*).

The operator must retain the data for a minimum of four years.

### §5. *Monitoring equipment*

**151.** As of 1 March 2006, every dry scrubber for a cast iron or steel melting furnace must be equipped with a continuous leak and malfunction detection and recording device.

## DIVISION IV WOOD INDUSTRY

### §1. *Particle and formaldehyde emission standards applicable to wood processing facilities*

**152.** A primary or secondary wood or wood product processing facility or particle board or fibreboard manufacturing facility using the processes of sawing, chipping, planing, trimming, levelling, edging, sanding and screening must not emit particles into the atmosphere in excess of 2.5 kilograms per hour for all processes combined unless the particle concentration is less than 50 milligrams per cubic metre at reference conditions at each emission point.

In addition, a particle board, fibreboard or other wood product manufacturing facility must not emit formaldehyde into the ambient air in a concentration in excess of the hourly limit of 28 µg per cubic metre for all processes combined, measured using a dispersion model conforming to Schedule H.

### §2. *Particle emission standards applicable to dryers*

**153.** Subject to section 79, a bark, chip, wafer, particle or wood fibre dryer must not emit particles into the atmosphere in excess of the emission standards listed respectively for new and existing stationary sources in Schedules C and F.

However, as of (*insert the date occurring three years after the date of coming into force of this Regulation*), an existing stationary source referred to in the first paragraph must not emit particles into the atmosphere in excess of the emission standards listed in Schedule C.

For the purposes of this section, all the dryers in the same establishment are considered to be a single dryer.

### §3. *Emission standards and other standards applicable to charcoal kilns and other wood or wood waste pyrolysis facilities*

**154.** A charcoal kiln or other wood or wood waste pyrolysis facility must not emit particles into the atmosphere in excess of the limit of 225 milligrams per cubic metre of undiluted dry gas at reference conditions.

The emissions from a kiln or facility referred to in the first paragraph must be routed to one or more stacks and emitted into the atmosphere.

### §4. *Emission monitoring measures*

**155.** The operator of a facility referred to in section 152 or 153 must, at least once every two years, perform source emissions testing, calculate the rate of the contaminants referred to in this Division and for that purpose, measure each of the parameters necessary for the calculation and determination of the applicable limit.

The operator must retain the data for a minimum of four years.

## DIVISION V ASBESTOS INDUSTRY

### §1. *Interpretation*

**156.** In this Division, unless the context indicates otherwise, “asbestos tailings” means fibres and dust collected by the dust collection equipment in a mine or an asbestos extraction or processing plant, the waste from the rock circuit and the waste from ore preparation in the establishment.

### §2. *Emission standards*

**157.** In a mine or an asbestos extraction plant, drilling, crushing, drying, dry rock storage, ore processing or asbestos processing must not cause asbestos fibres to be emitted into the atmosphere in excess of the limit of two fibres per cubic centimetre of dry gas at reference conditions.

For the purposes of this section, only fibres at least five micrometres long with a length/width ratio of at least 3:1 are calculated.

**158.** Every outside conveyor used to transport asbestos ore, asbestos concentrates or asbestos tailings and all transfer points must be completely enclosed and connected to a dust collector whose asbestos fibre emissions comply with the limit prescribed in section 157.

If the loading or unloading of asbestos concentrates into or from trucks, railroad cars or ships causes dust emissions visible more than two metres from the emission point, the person in charge of the source of contamination must take the necessary measures so that the loading or unloading points are in an enclosed space that has ducts which draw the particles into a dust collector in such manner that the asbestos fibre emissions comply with the limit prescribed in section 157.



This section does not apply to stacker-conveyors discharging asbestos tailings onto waste piles.

**159.** The discharging of asbestos tailings onto waste piles by stacker-conveyors, the transportation, loading and unloading of asbestos tailings into or from trucks or railroad cars and the levelling of tailings piles must be carried out in such manner that no emission into the atmosphere is visible more than two metres from the emission point.

**160.** In every asbestos mining facility, asbestos tailings must be wetted before being discharged onto waste piles. The fine particles collected by the dust collectors in the facilities must be mixed with water in a mixer before being disposed of in the environment.

### *§3. Emission monitoring measures*

**161.** The operator of a mine or an asbestos extraction or processing plant must, at least once a year, perform source emissions testing for each process referred to in section 157, calculate the asbestos fibre concentration and for that purpose, measure each of the parameters necessary for the calculation.

The operator must also, at least once every three years, perform source emissions testing for each dust collector referred to in section 158 and have the samples analyzed to measure the asbestos fibre concentration for each of the parameters established in that section.

The operator must retain the data for a minimum of four years.

## **DIVISION VI LEAD INDUSTRY**

### *§1. Interpretation*

**162.** In this Division, unless the context indicates otherwise, “secondary lead smelter” means any plant or industrial equipment that processes a substance containing lead, other than an ore concentrate, using a metallurgical or chemical process to produce refined lead, lead oxide or a lead alloy.

### *§2. Emission standards*

**163.** A secondary lead smelter or plant that processes or uses lead or lead compounds must not emit particles into the atmosphere in excess of the following limits :

(1) 46 milligrams of particles per cubic metre of dry gas at reference conditions, in the case of smelting furnaces ; and

(2) 23 milligrams of particles per cubic metre of dry gas at reference conditions, in the case of holding furnaces or kettle furnaces, lead oxide production, lead material handling or refuse units, or lead crushing, slagging, tapping, furnace cleaning or casting units.

In addition, a secondary lead smelter or plant that processes or uses lead or lead compounds must not emit lead into the atmosphere in excess of

(1) 30 milligrams of lead per cubic metre of dry gas at reference conditions in the case of the emission sources referred to in subparagraph 1 of the first paragraph ; and

(2) 15 milligrams of lead per cubic metre in the case of the emission sources referred to in subparagraph 2 of the first paragraph.

**164.** Lead oxide and lead compounds salvaged from batteries must be stored outside a building. No salvaging of lead from batteries may take place outside a building.

**165.** The handling or transfer of lead substances must not cause emissions into the atmosphere that are visible more than two metres from the emission source.

### *§3. Emission monitoring measures*

**166.** The operator of a secondary lead smelter or plant that processes or uses lead or lead compounds must, at least once a year, perform source emissions testing of the gases emitted into the atmosphere by each emission source referred to in section 163, calculate the concentration of the contaminants referred to in that section and for that purpose, measure each of the parameters necessary for the calculation.

The operator must retain the data for a minimum of four years.

## **DIVISION VII PETROLEUM REFINERIES AND PETROCHEMICAL PLANTS**

### *§1. Emission standards and other standards*

**167.** A catalyst regeneration process used in catalytic cracking in a petroleum refinery must not emit particles into the atmosphere in a concentration greater than 100 mg per cubic metre of undiluted dry gas at reference conditions.

**168.** The catalyst regeneration used in the catalytic cracking process in a petroleum refinery must not emit more than 500 ppm of undiluted carbon monoxide into the atmosphere, on a dry basis, at reference conditions.

**169.** If the flare of a petroleum refinery or a petrochemical plant is equipped with a steam injection system, the steam/gas ratio must be regulated automatically.

**§2. Emission monitoring measures**

**170.** The operator of a petroleum refinery must, at least once a year, perform source emissions testing of the gases emitted into the atmosphere by the catalyst regeneration process used in catalytic cracking, calculate the particle and carbon monoxide concentration and for that purpose, measure each of the parameters necessary for the calculation.

The operator must retain the data for a minimum of four years.

**§3. Monitoring equipment**

**171.** Every petroleum refinery must be equipped with a system in good working order that continuously measures and records the opacity of the gases emitted into the atmosphere by the catalyst regeneration process referred to in section 167, or the gas particle concentration, and the gas carbon monoxide concentration.

The operator must retain the data for a minimum of four years.

**DIVISION VIII  
TREATMENT OF METALLIC SURFACES**

**§1. Interpretation**

**172.** In this Division, unless the context indicates otherwise, “treatment of metallic surfaces” means the preparation of metallic surfaces by pickling, other than abrasive blast cleaning, or etching, and the treatment of the surfaces by chemical or electrochemical methods.

**§2. Emission standards**

**173.** A metallic surface treatment process must not emit contaminants into the atmosphere in excess of the limits set out for each type of contaminant in the following table:

Contaminant	Inorganic acid or hexavalent chromium emission limits (mg/Rm <sup>3</sup> )	Date of application
Inorganic acid other than chromic acid	10	(Insert the date of coming into force of this Regulation)

Contaminant	Inorganic acid or hexavalent chromium emission limits (mg/Rm <sup>3</sup> )	Date of application
Hexavalent chromium	0.9	(Insert the date of coming into force of this Regulation)
	0.2	(Insert the date occurring 6 months after the date of coming into force of this Regulation)
	0.03	(Insert the date occurring 30 months after the date of coming into force of this Regulation)

**§3. Emission monitoring measures**

**174.** The operator of a metallic surface treatment process that uses a chromic acid process must, at least once every five years, perform source emissions testing of the gases emitted into the atmosphere by the process, calculate the hexavalent chromium concentration and for that purpose, measure each of the parameters necessary for the calculation.

The operator must also carry out a first sampling and calculation within six months after the date of application set out in section 173 for each emission value.

The operator must retain the data for a minimum of four years.

**DIVISION IX  
IRON ORE PELLETIZING PLANTS**

**175.** An iron ore pellet hardening furnace must not emit into the atmosphere more than 0.05 kilograms of particles per tonne of pellets produced, including the recirculating load, where applicable.

**176.** The operator of an iron ore pelletizing plant must, at least once a year, perform source emissions testing of the gases emitted into the atmosphere by a furnace referred to in section 175, calculate the particle rate and for that purpose, measure each of the parameters necessary for the calculation.

The operator must retain the data for a minimum of four years.

## DIVISION X FERRO-ALLOY PLANTS

### §1. Interpretation

**177.** For the purposes of this Division, metallic silicon and any alloy containing manganese, chromium or silicon are considered to be ferro-alloys.

### §2. Emission standards

**178.** An existing furnace producing a ferro-alloy listed in the following table must not emit particles into the atmosphere in excess of the limits set out in the table:

Category of ferro-alloy	Emission limits (kg of particles/t of finished product)
Ferro-alloy other than metallic silicon	7.5
Metallic silicon	10

A new furnace producing such a ferro-alloy must not emit particles into the atmosphere in excess of the limits listed in Schedule C.

**179.** An emission source in a ferro-alloy plant other than a furnace used to produce the ferro-alloy must not emit particles into the atmosphere in a concentration greater than 30 mg/Rm<sup>3</sup>.

### §3. Emission monitoring measures

**180.** The operator of a furnace used to produce a ferro-alloy referred to in section 178 must, at least once every three years, perform source emissions testing of the gases emitted into the atmosphere by the furnace, calculate the particle rate and for that purpose, measure each of the parameters necessary for the calculation.

In addition, the operator must carry out a first sampling and calculation within twelve months after (*insert the date of coming into force of this Regulation*).

The operator must retain the data for a minimum of four years.

### §4. Monitoring equipment

**181.** As of 1 March 2006, every scrubber of emissions from a furnace used to produce a ferro-alloy must be equipped with a system in good working order that

continuously measures and records the opacity of the gases emitted or the particle concentration and that is capable of detecting any malfunction of the scrubber.

## DIVISION XI COPPER OR ZINC PRODUCING INDUSTRIES

### §1. Emission standards

**182.** A primary copper production plant in a category listed in the following table must not, as of the date prescribed for that category, emit a percentage of sulphur into the atmosphere, in the form of sulphur dioxide, greater than the maximum percentage of input sulphur set out in the table for that category:

Category of plant	Maximum % of input sulphur	Date of application
Existing plant	25	( <i>Insert the date of coming into force of this Regulation</i> )
	10	( <i>Insert the date occurring 12 months after the date of coming into force of this Regulation</i> )
New plant	5	( <i>Insert the date of coming into force of this Regulation</i> )

For the purposes of the above table, input sulphur is the sulphur contained in the total feed, including the sulphur contained in the fuel. The percentage is calculated on an annual basis using the monthly production data average.

In addition, a plant must not emit sulphur dioxide into the atmosphere in such manner that the average concentration of the contaminant measured in the ambient air at each sampling station exceeds the limits set out in the following table:

Limits for sulphur dioxide in the ambient air	
Concentration (ppm)	Sampling time
0.34	Average over 1 hour
0.11	Average over 24 hours
0.02	Annual average on a 1-hour sampling basis

Despite the third paragraph, the average limit of 0.34 ppm set out in the preceding table may be exceeded by a maximum of 0.2% of the samples taken over a twelve-month period per sampling station provided that the concentration of sulphur dioxide never exceeds 0.5 ppm.

**183.** A primary copper production plant in a category listed in the following table must not, as of the date prescribed for that category, emit particles into the atmosphere in excess of the limits set out in the table for that category :

Category of plant	Emission limits (kg/t)	Date of application
Existing plant	1.2	<i>(Insert the date of coming into force of this Regulation)</i>
	0.6	<i>(Insert the date occurring 12 months after the date of coming into force of this Regulation)</i>
New plant	0.3	<i>(Insert the date of coming into force of this Regulation)</i>

For the purposes of this section, the sum of the emissions from the reactor, matte and slag casting, converters and copper anode furnaces is calculated. Emissions are calculated on an annual basis in kilograms of particles per tonne of material introduced into the process, including the fuel.

**184.** A primary copper production plant in a category listed in the following table must not emit mercury into the atmosphere in excess of the limits set out in the table :

Category of plant	Emission limits (g of mercury/t of anodes produced)
Existing plant	2.0
New plant	0.2

For the purposes of this section, the sum of the emissions from the reactor, converters and anode furnaces is calculated. Emissions are calculated on an annual basis in grams of mercury per tonne of copper anodes produced.

**185.** A sulphuric acid plant used to reduce emissions into the atmosphere of sulphur dioxide from a primary copper production plant must fix the sulphur in the gases to be treated at not less than 96% efficiency, and must not emit more than 0.075 kilograms of sulphuric acid into the atmosphere, including sulphur trioxide, per tonne of 100% acid produced.

**186.** If a sulphuric acid plant referred to in section 185 is not in operation, no gases may be emitted into the atmosphere from a reactor or a converter other than the thermal refining type for a period exceeding 90 minutes.

**187.** A zinc production plant must not emit into the atmosphere in the form of sulphur dioxide more than 4% of the total sulphur introduced monthly into the process or more than 0.2 grams of mercury per tonne of zinc produced.

A zinc production plant must not emit sulphur dioxide into the atmosphere in such manner that the average concentration of the contaminant measured in the ambient air exceeds the limits set out in the table in the third paragraph of section 182.

**188.** A sulphuric acid plant used to reduce sulphur dioxide emissions from a zinc production plant must not emit into the atmosphere

(1) more sulphur dioxide per tonne of sulphuric acid on a monthly basis than the limit set out in the following table :

Category of plant	Emission limits kg/t
Plant established or put into operation on or before 14 November 1979 or the construction of which commenced on or before that date	25
Plant established or put into operation after 14 November 1979 or the construction of which commenced after that date	5

If the operator of a zinc production plant uses more than one sulphuric acid plant to reduce sulphur dioxide emissions from the zinc production plant and all the sulphuric acid plants were established or put into operation on or before 14 November 1979, or their construction commenced on or before that date, the total sulphur dioxide emitted for all plants combined must not exceed 20 kg/t, calculated according to the weighted average of the total production of the plants ; and

(2) more than 0.5 kilograms of sulphuric acid, including sulphur trioxide, per tonne of acid calculated at 100%, in the case of a sulphuric acid plant the construction of which commenced, or that was operated, installed or used, on or before 14 November 1979, or more than 0.075 kilograms of sulphuric acid in the case of a plant established or put into operation after 14 November 1979 or the construction of which commenced after that date.

## §2. Emission monitoring measures

**189.** At least once a year, the operator of a primary copper production plant referred to in sections 183 and 184 must perform source emissions testing of the gases emitted into the atmosphere, calculate the particle and mercury rate and for that purpose, measure each of the parameters necessary for the calculation.

The operator of a sulphuric acid plant referred to in section 185 or 188 and the operator of a zinc production plant referred to in the first paragraph of section 187 have respectively the same obligation with respect to the contaminants and parameters referred to in those provisions.

The operator must retain the data for a minimum of four years.

In addition, the operator of a plant referred to in this section must send to the Minister of Sustainable Development, Environment and Parks, within sixty days after the end of each calendar year,

(1) a detailed sulphur balance report for each month of the year ended indicating the quantities of sulphur contained in the treated dry concentrate, in the heavy oil used or, as the case may be, in the flux or coal used and in any other material introduced in the process and the quantity of 100% sulphuric acid produced during the year; and

(2) a report indicating the total quantity of concentrate from each supplier and the weight percentage of the arsenic, bismuth, antimony, lead, cadmium and mercury content of the treated concentrate.

**190.** Where the operator of a primary copper production plant or a zinc production plant becomes aware that the limits referred to respectively in the third paragraph of section 182 or the second paragraph of section 187 are exceeded in the ambient air, the operator must immediately notify the Minister of Sustainable Development, Environment and Parks and indicate the remedial measures taken.

## §3. Monitoring equipment

**191.** A primary copper production plant must, as of (*insert the date occurring 12 months after the date of coming into force of this Regulation*), be equipped with

(1) a sampling system in good working order that continuously measures and records the opacity or the concentration of the gas particles emitted into the atmosphere;

(2) a source sampling system in good working order that continuously measures and records the sulphur dioxide concentration and the flow of the gases emitted into the atmosphere; and

(3) a sampling system in good working order that measures sulphur dioxide in the ambient air at not fewer than five sampling stations.

For the purposes of subparagraph 1, the emissions considered are those from the sources referred to in the second paragraph of section 183.

A zinc production plant is also subject to the sampling and measuring requirements in subparagraph 2 and the sampling and measuring requirements in subparagraph 3 for at least two sampling stations.

The sampling stations required for the purposes of subparagraph 3 and the third paragraph must be situated in such manner as to be representative of the maximum contaminant impact point.

The operator must retain the data for a minimum of four years.

## TITLE III OPEN AIR BURNING

**192.** Open air burning of residual materials or other combustible materials, even for partial recovery, is prohibited, except in the case of explosive products or empty explosive containers.

**193.** Section 192 does not apply to burning activities subject to the provisions of Chapter I of Title III of the Forest Act (R.S.Q., c. F-4.1). It also does not apply to a disposal site to which Division X.1 of the Regulation respecting solid waste applies, to flares used to burn residual gases produced by landfills, petroleum refineries and petrochemical plants, or to burning activities carried out in connection with the training of firefighters.

The person in charge of the training of firefighters must ensure that the emissions produced are not likely to affect the life, health, safety, welfare or comfort of human beings, or to cause damage to or otherwise impair the quality of the soil, vegetation, wildlife or property. The operator of a disposal site has the same obligation.

#### TITLE IV AMBIENT AIR QUALITY STANDARDS

**194.** The ambient air quality standards prescribed for the territory of Québec are listed in Schedule K.

**195.** As of (*insert the date of coming into force of this Regulation*), the construction or alteration of a stationary source of contamination or an increase in the production of a good or service is prohibited if it will likely result in an increase in the concentration of a contaminant listed in Schedule K in the atmosphere in excess of the limit concentration appearing in column 1 of that Schedule.

The increase in a contaminant concentration in the atmosphere is calculated on the basis of the initial concentration in the results of sampling carried out or validated by the Ministère du Développement durable, de l'Environnement et des Parcs for all or part of the 12 months preceding the implementation of the project referred to in the first paragraph or, if sampling results are not available for that period, on the basis of the average initial concentration for that contaminant appearing in column 2 of Schedule K.

For the purposes of this section, the air dispersion models in Schedule H are to be used as provided in that Schedule.

This section does not operate to restrict the application of section 194 for any other purpose.

#### TITLE V MEASUREMENT AND ANALYSIS METHODS, PROCEDURES AND FOLLOW-UP

**196.** The sampling required for the purposes of this Regulation must be carried out using the reference methods prescribed in Book 4 of the Guide d'échantillonnage à des fins d'analyses environnementales published by the Centre d'expertise en analyse environnementale du Québec of the Ministère du Développement durable, de l'Environnement et des Parcs.

For the purposes of Divisions IV and V of Chapter VII of Title II or Division II of Chapter VIII of Title II, the sampling must be carried out in conformity with the applicable best practices.

For the purposes of section 135, fluoride sampling in forage must be carried out using the methods prescribed in Book 6 of the Guide referred to in the first paragraph.

For the purposes of the third paragraph of section 182 or the second paragraph of section 187, sulphur dioxide sampling and analysis must be carried out using the methods prescribed in the latest version of the List of Designated Reference and Equivalent Methods published by the United States Environmental Protection Agency.

For the purposes of Title IV, the sampling and analysis of a contaminant to which section 194 applies must be carried out using a method established for that contaminant in the latest version of one of the following documents published by the United States Environmental Protection Agency :

— Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air – Second Edition (EPA/625/R-96/010b, January 1999);

— Compendium of Methods for the Determination of Inorganic Compounds in Ambient Air (EPA/625/R-96/010a, June 1999);

— List of Designated Reference and Equivalent Methods (August 16, 2004).

If the documents do not provide a sampling and analysis method for a particular contaminant, the sampling and analysis must be carried out using a recognized method whose detection limit allows a concentration up to five times lower than the concentration appearing in column 1 of Schedule K to be detected for the contaminant.

The samples taken for the purposes of the third paragraph of section 182, the second paragraph of section 187 or Title IV must be taken off the limits of the property occupied by the source of contamination. If the source of contamination is situated in a sector zoned for industrial purposes or in a buffer zone adjacent to such a sector, as established by the competent municipal authorities, the samples must be taken outside that sector.

**197.** An emission limit or other emission standard established for a source of contamination is complied with if the average of three valid analysis results, obtained during the same sampling run carried out when the facility or process involved is operating under normal conditions, does not exceed the emission limit or standard, so long as not more than one of the three analysis results exceeds the limit or standard by not more than 20%.

This section does not apply to emission limits and other emission standards for which a provision of this Regulation prescribes a contaminant sampling taken by a continuous measuring and recording system, or to the limit values prescribed by section 135 for fluorides. It also does not apply to the limit values prescribed by Title IV.

**198.** Sampling that is part of emission monitoring measures prescribed by a provision of this Regulation other than a provision of Title IV must be the subject of a sampling report prepared in accordance with the procedures prescribed in Book 4 of the Guide referred to in section 196. If the analysis indicates that an emission limit determined by a provision of this Regulation has been exceeded, that fact must appear in the report. The report must be sent to the Minister of Sustainable Development, Environment and Parks within 120 days after the end of the sampling run.

Written certification by the report signatory stating that the samplings were carried out in conformity with the applicable best practices or with the requirements of this Regulation, including those of the Guide referred to in section 196, as the case may be, must be sent to the Minister of Sustainable Development, Environment and Parks with the report referred to in the first paragraph.

**199.** The analyses required for the purposes of this Regulation must be carried out by a laboratory accredited by the Minister of Sustainable Development, Environment and Parks under section 118.6 of the Act.

#### TITLE VI OFFENCES

**200.** Every offence against section 7, sections 44 to 48, 85 to 89, 91 to 95, 99 to 101, 103 to 114, 125 to 132, 134 to 144, 146, 147, 149 to 151, 157 to 161, 163 to 171, 173 to 176, 178 to 188, the first, second and third paragraphs of section 189, or section 191 renders the operator liable to a fine of

(1) \$2,000 to \$25,000, in the case of a natural person ;  
and

(2) \$25,000 to \$500,000, in the case of a legal person.

**201.** Every offence against sections 8 to 11, 13 to 16, 19, 21 to 23, 25 to 30, 32 to 40, 42, 43, 50 to 52, 56, 58, 59, 61 to 67, 69 to 75, 77, 78, 80 to 84, 116, 117, 119 to 123, 152 to 155 or 192 renders the operator liable to a fine of

(1) \$2,000 to \$15,000, in the case of a natural person ;  
and

(2) \$5,000 to \$100,000, in the case of a legal person.

**202.** Every person who fails to communicate information to the Minister of Sustainable Development, Environment and Parks required to be communicated under section 4, communicates false or inaccurate information to the Minister or fails to keep a record or send a report or other document referred to in section 24, 41, 49, 57, 96, 115, the fourth paragraph of section 189, section 190 or 198, or includes false or inaccurate information or fails to include prescribed data in the documents is liable to a fine of

(1) \$2,000 to \$12,000, in the case of a natural person ;  
and

(2) \$5,000 to \$25,000, in the case of a legal person.

**203.** In the case of a second or subsequent offence, the fines prescribed by sections 200 to 202 are doubled.

#### TITLE VII MISCELLANEOUS, AMENDING AND TRANSITIONAL

**204.** A facility in operation on (*insert the date of coming into force of this Regulation*), governed up to that date by the provisions of section 16 and paragraph *i* of section 96 of the Regulation respecting the quality of the atmosphere (R.R.Q., 1981, c. Q-2, r.20), remains governed for a two-year period following that date by those provisions as they read on (*insert the date of the day immediately preceding the date of coming into force of this Regulation*).

**205.** Section 32 applies to paint shops and paint rooms in operation on (*insert the date of coming into force of this Regulation*) as of (*insert the date occurring 12 months after the date of coming into force of this Regulation*).

**206.** Section 37 applies to body repair and paint shops in operation on (*insert the date of coming into force of this Regulation*) as of (*insert the date occurring 12 months after the date of coming into force of this Regulation*).

**207.** With respect to the storage of volatile organic compounds, sections 42 and 43 apply from the earlier of

(1) the date of the first tank repair carried out after (*insert the date of coming into force of this Regulation*) that requires degassing; and

(2) 28 February 2006.

**208.** Section 72 applies to fuel burning equipment in operation on (*insert the date of coming into force of this Regulation*) as of (*insert the date occurring 36 months after the date of coming into force of this Regulation*). Until that date, the equipment remains governed by the provisions of section 45 of the Regulation respecting the quality of the atmosphere as it read (*insert the date of the day immediately preceding the date of coming into force of this Regulation*).

**209.** Sections 80 and 92 apply to fuel burning equipment and industrial furnaces in operation on (*insert the date of coming into force of this Regulation*) as of (*insert the date occurring 12 months after the date of coming into force of this Regulation*). Sections 80 and 92 apply as of (*insert the date occurring 36 months after the date of coming into force of this Regulation*) to existing facilities where a scrubber and a stack must be installed to comply with the emission standards prescribed in sections 72 to 79.

**210.** Sections 97 to 116 apply to incinerators that burn residual hazardous materials and to contaminated soil heat treatment facilities in operation on (*insert the date of coming into force of this Regulation*) as of (*insert the date occurring 24 months after the date of coming into force of this Regulation*).

**211.** A horizontal stud Soderberg potline referred to in section 129, in operation on (*insert the date of coming into force of this Regulation*), remains governed until 28 February 2006 by the provisions of section 38 of the Regulation respecting the quality of the atmosphere as it read on (*insert the date of the day immediately preceding the date of coming into force of this Regulation*).

**212.** With respect to existing cement plants, the emission limit value of 150 grams per tonne of clinker prescribed in section 141 that applies to a clinker cooler applies as of 1 March 2006.

**213.** The activities referred to in section 149 that take place in an establishment in operation on (*insert the date of coming into force of this Regulation*) remain governed for a period of one year after that date by section 62 of the Regulation respecting the quality of the atmosphere as it read on (*insert the date of the day immediately preceding the date of coming into force of this Regulation*).

**214.** This Regulation replaces the Regulation respecting the quality of the atmosphere (R.R.Q., 1981, Q-2, r.20), except sections 96.1 to 96.3 and 96.6. However, those provisions continue to apply to existing establishments, facilities, equipment and furnaces to the extent provided for in this Title.

**215.** Section 102 of the Regulation respecting pulp and paper mills made by Order in Council 1353-92 dated 16 September 1992 is revoked.

**216.** This Regulation comes into force on the fifteenth day following the date of its publication in the *Gazette officielle du Québec*.

## SCHEDULE A

(s. 5)

### LIST OF POLYCYCLIC AROMATIC HYDROCARBONS (PAHS) TO WHICH TITLE II APPLIES

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#### Polycyclic aromatic halocarbons (PAHs)

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Fluorene  
 Phenanthrene  
 Anthracene  
 Pyrene  
 Fluoranthene  
 Chrysene  
 Benzo[a]anthracene  
 Benzo[a]pyrene  
 Benzo[e]pyrene  
 Benzo[b]fluoranthene  
 Benzo[j]fluoranthene  
 Benzo[k]fluoranthene  
 Benzo[g,h,i]perylene  
 Indeno[1,2,3,-cd]pyrene  
 Dibenz[a,h]anthracene

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**SCHEDULE B**

(ss. 7, 77 and 89)

**PARTICLE EMISSION LIMIT VALUES  
ACCORDING TO THE PROCESS FEED RATE  
FOR CERTAIN EXISTING SOURCES**

PROCESS FEED RATE (t/h)	PARTICLE EMISSION LIMITS (kg/h)
1	2.0
2	3.2
5	5.9
10	9.4
20	14.9
50	20.4
100	23.5
200	26.8
500	31.5

For the purposes of this Schedule,

(1) “feed rate” means the feed rate as defined in section 6 of this Regulation;

(2) interpolation and extrapolation of the values in this Schedule for a feed rate under 25 t/h are effected using the equation  $E = 2.0 p^{0.67}$ , where E is the emission standard in kg/h and p is the feed rate in t/h; for a feed rate equal to or greater than 25 t/h, the formula used is  $E = 25 p^{0.11} - 18$ ; and

(3) in the case of intermittent process operation, the feed rate is calculated by dividing the total feed weight by the number of hours of full operation and subtracting the time during which the equipment was not in operation. The hourly feed rate is calculated by dividing the feed weight for a typical time period by the number of hours in that period.

**SCHEDULE C**

(ss. 7, 77, 89, 153 and 178)

**PARTICLE EMISSION LIMIT VALUES  
ACCORDING TO THE PROCESS FEED RATE  
FOR CERTAIN NEW SOURCES**

PROCESS FEED RATE (t/h)	PARTICLE EMISSION LIMITS (kg/h)
1	1.7
2	2.6
5	4.6
10	7.1
20	10.9
50	15.0
100	16.7
200	18.7
500	21.6

For the purposes of this Schedule,

(1) “feed rate” means the feed rate as defined in section 6 of this Regulation;

(2) interpolation and extrapolation of the values in this Schedule for a feed rate under 25 t/h are effected using the formula  $E = 1.7 p^{0.62}$ , where E is the emission standard in kg/h and p is the feed rate in t/h; for a feed rate equal to or greater than 25 t/h, the formula used is  $E = 8 p^{0.16}$ ; and

(3) in the case of intermittent process operation, the feed rate is calculated by dividing the total feed weight by the number of hours of full operation and subtracting the time during which the equipment was not in operation. The hourly feed rate is calculated by dividing the feed weight for a typical time period by the number of hours in that period.

**SCHEDULE D**

(s. 13)

**CHART TO MEASURE OPACITY OF GREY OR BLACK EMISSIONS**

Opacity of grey or black emissions into the atmosphere is measured using a Micro Ringelmann Chart in good condition, printed within the last five years, that meets the following specifications :

The Micro Ringelmann Chart is printed on a card 12.8 cm long by 8.6 cm wide on which opacities of 20%, 40%, 60% and 80% (No. 1, No. 2, No. 3 and No. 4 respectively) are represented in order, in an alignment of vertical rectangles 24 mm by 58 mm ( $\pm 1$  mm), within which a 13-mm ( $\pm 1$  mm) slit is made. Each degree of opacity is represented by an ultra fine grid of black lines on a white background, according to the following specifications :

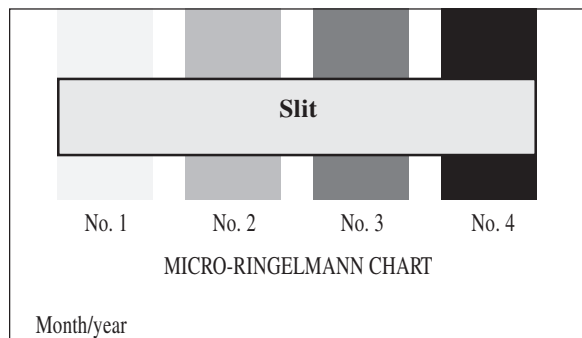
For opacity No. 1 : Black grid lines measuring 0.055 mm that are 0.555 mm apart with white spaces 0.5 mm by 0.5 mm.

For opacity No. 2 : Black grid lines measuring 0.128 mm that are 0.555 mm apart with white spaces 0.427 mm by 0.427 mm.

For opacity No. 3 : Black grid lines measuring 0.205 mm that are 0.555 mm apart with white spaces 0.35 mm by 0.35 mm.

For opacity No. 4 : Black grid lines measuring 0.305 mm that are 0.555 mm apart with white spaces 0.25 mm by 0.25 mm.

The month and year the chart was printed must be indicated in the lower left-hand corner.

**CHART SPECIMEN**

Opacity is measured from an observation point located between 30 and 400 metres from the emission point. The observation point must be such that the observer's line of vision is perpendicular to the direction of the plume and that the sun is oriented in the 140° sector to the observer's back.

The observer holds the chart at arm's length and looks at the emission through the slit in the card. The observer notes the scale number (No. 1, 2, 3 or 4) that best suits the opacity observed. No. 0 is used to indicate that no emission is visible and No. 4 applies to opacity of 100%. Momentary and punctual observations are noted every 15 seconds. Opacity evaluation is carried out over a 60-minute period without interruption (240 observations over 60 min) or over two 30-minute periods with an interruption after the first 30-minute period (120 observations over 30 minutes, twice). Each observation is considered to be representative of the opacity for a 15-second period.

Opacity evaluation must be carried out at the point of maximum opacity, in a part of the plume where there is no condensed water vapour. Where water vapour condenses and becomes visible at a certain distance from the emission point, the opacity must be evaluated between the emission point and the condensation point of the water vapour. When condensed water vapour is present in the plume, at its emission point, the opacity of the plume must be observed at the point where the vapour is no longer visible.

**SCHEDULE E**

(s. 49)

**FORMULAS FOR CALCULATING ESTIMATIONS OF VOLATILE ORGANIC COMPOUND EMISSIONS**

Table I

Category of operation	Category of equipment parts	Formula
PETROLEUM REFINERY	Overpressure valves	$E=1.36 \times 10^{-5} \times C^{0.589}$
PETROCHEMICAL PLANT	Gate valves and other valves	$E=2.29 \times 10^{-6} \times C^{0.746}$
OIL TERMINAL		
	Pump, compressor and agitator seals	$E=5.03 \times 10^{-5} \times C^{0.610}$
	Joints and connections	$E=4.61 \times 10^{-6} \times C^{0.703}$
	Open pipes	$E=2.20 \times 10^{-6} \times C^{0.704}$
ORGANIC CHEMICAL PLANT	Gate valves and other valves (gas)	$E=1.87 \times 10^{-6} \times C^{0.873}$
	Gate valves and other valves (liquid)	$E=6.41 \times 10^{-6} \times C^{0.797}$
	Pump, compressor, agitator and overpressure valve seals	$E=1.9 \times 10^{-5} \times C^{0.824}$
	Joints and connections	$E=3.05 \times 10^{-6} \times C^{.885}$
	Open pipes	$E=6.41 \times 10^{-6} \times C^{0.797}$

Table II

Category of operation	Category of equipment parts	Formula
PETROLEUM REFINERY	Overpressure valves	$E=4 \times 10^6 \text{ kg/h/part}$
PETROCHEMICAL PLANT	Gate valves and other valves	$E=7.8 \times 10^6 \text{ kg/h/part}$
OIL TERMINAL		
	Pump, compressor and agitator seals	$E=2.4 \times 10^5 \text{ kg/h/part}$
	Joints and connections	$E=3.1 \times 10^7 \text{ kg/h/part}$
	Open pipes	$E=2.0 \times 10^6 \text{ kg/h/part}$
ORGANIC CHEMICAL PLANT	Gate valves and other valves (gas)	$E=6.6 \times 10^7 \text{ kg/h/part}$
	Gate valves and other valves (liquid)	$E=4.9 \times 10^7 \text{ kg/h/part}$
	Pump, compressor, agitator, overpressure valve and other valve seals (liquid)	$E=7.5 \times 10^6 \text{ kg/h/part}$
	Joints and connections	$E=6.1 \times 10^7 \text{ kg/h/part}$
	Open pipes	$E=2.0 \times 10^6 \text{ kg/h/part}$

For the purposes of the above tables,

“E” is the total or specific organic compound emissions in kg/h per part; and

“C” is the measured concentration of total or specific organic compounds expressed in ppmv; if the concentration “C” measured for a part is greater than 10,000 ppmv ( $C > 10,000$  ppmv), use  $C = 33,620$  ppmv in the emission calculation equation for that part.

### SCHEDULE F

(ss. 146 and 153)

#### PARTICLE EMISSION LIMIT VALUES ACCORDING TO THE PROCESS FEED RATE FOR CERTAIN EXISTING SOURCES

PROCESS FEED RATE (t/h)	PARTICLE EMISSION LIMITS (kg/h)
1	2.0
2	3.2
5	5.9
10	9.4
20	14.9
50	27.5
100	43.8
200	69.6
500	128.6

For the purposes of this Schedule,

(1) “feed rate” means the feed rate as defined in section 6 of this Regulation;

(2) interpolation and extrapolation of the values in this Schedule are effected using the equation  $E = 2.0 p^{0.67}$ , where E is the emission standard in kg/h and p is the feed rate in t/h; and

(3) in the case of intermittent process operation, the feed rate is calculated by dividing the total feed weight by the number of hours of full operation and subtracting the time during which the equipment was not in operation. The hourly feed rate is calculated by dividing the feed weight for a typical time period by the number of hours in that period.

### SCHEDULE G

(ss. 74, 88, 89 and 96)

#### LIMIT VALUES FOR CERTAIN METALS AND METALLOIDS IN AMBIENT AIR

Contaminant	Concentration on an annual basis ( $\mu\text{g}/\text{m}^3$ )
Lead	0.1
Arsenic	0.003
Cadmium	0.0036
Antimony	0.17
Barium	0.05
Mercury	0.15
Silver	0.23
Thallium	0.25
Beryllium	0.0004
Chromium	0.004
Nickel	0.012

For the purposes of this Schedule, the contaminant concentration must be calculated for a point located off the limits of the property occupied by the source of contamination and outside any sector zoned for industrial purposes or buffer zone adjacent to such a sector, as established by the competent municipal authorities. If the territory thus zoned includes one or more permanent residences, the contaminant concentration must be calculated for a point within the property limits of the nearest residence.

### SCHEDULE H

(ss. 74, 88, 89 and 195)

#### AIR DISPERSION MODEL

This Schedule prescribes the air dispersion models to be used for the purposes of sections 74, 88, 89 and 195 of this Regulation and the procedures for their use.

The dispersion models that may be used are those in the latest edition of the US-EPA Guideline on Air Quality Models (Appendix W to Part 51) and include the SCREEN, ISCPRIME, AERMOD, CALPUFF and ARIA models.

Using the model, the operator must calculate the concentrations in the ambient air of each contaminant for which a limit value in the ambient air is prescribed. The concentration to be obtained from the calculations is the annual average for each contaminant.

The concentrations of a contaminant in the ambient air for a single source must be calculated by modeling with one of the following methods:

(a) a simple model, called a level 1 model, for a single source; or

(b) a multi-source complex model, called a level 2 model, simulating a single source.

For a single source, if a contaminant concentration calculated with a level 1 model exceeds 80% of the limit, modeling with a level 2 model is required.

If the establishment has several emission sources, the concentrations of contaminants in the ambient air must be calculated using a level 2 model.

The use of a level 1 model does not require specific meteorological data since the data is generated by the model itself. The annual average concentration is obtained in the following manner:  $C_{AN} = C_{MAX-HR} \times 0.04$ , where  $C_{AN}$  is the annual average concentration and  $C_{MAX-HR}$  is the highest hourly concentration calculated.

For a level 2 model, the operator must use

(a) a full year of meteorological data recorded on the site of the establishment;

(b) five years of complete meteorological data representative of the location of the establishment;

(c) the overall regional meteorological data supplied by the Ministère du Développement durable, de l'Environnement et des Parcs for the region where the establishment is located; or

(d) the overall general meteorological data supplied by the Ministère du Développement durable, de l'Environnement et des Parcs if the data described in *a*, *b* or *c* does not exist.

The annual average concentration for each calculation point is obtained respectively in the following manner, according to the meteorological data used and described above:

(a) the average of the 8,760 concentrations calculated;

(b) the average of the 8,760 concentrations calculated for each year;

(c) the average of the 8,760 concentrations calculated;

(d) from the highest hourly concentration calculated:  $C_{AN} = C_{MAX-HR} \times 0.04$ , where  $C_{AN}$  is the annual average concentration and  $C_{MAX-HR}$  is the highest hourly concentration calculated.

The operator must describe all the calculations made using the meteorological data to obtain the specific parameters that the use of the model requires.

All the values of the parameters required for the model must be listed.

In the case of a contaminant for which this Regulation provides that the concentration is to be established over a period of less than one hour, the concentration is calculated using the following formula:

$$C(T) = C_{1\text{ hour}} \times 0.97 T^{-0.25}$$

where  $T$  is the time in hours and  $C_{1\text{ hour}}$  is the maximum concentration for one hour.

The operator must take into account the topography if the difference in altitude between the highest and the lowest points of the region for which the calculations are made is equal to or greater than 10 metres.

The ambient levels of the contaminants modeled, without the contribution of the source or sources considered for the modeling, must be added to the annual average concentrations calculated. The results must be presented to enable comparison with the limits prescribed in the ambient air. The operator must retain the following information for a minimum of two years:

(a) one or more maps showing the region for which the calculations have been made, indicating the calculation points and their altitude, the establishment and its property limits, and the pertinent geographical, physical and human elements. Each map must include a scale and the direction of geographical North;

(b) a top view and a sectional view of the establishment's buildings and the location of the sources;

(c) the physical features of each source and the operating characteristics;

(d) for each contaminant, maps showing the modeling calculation results in the form of isopleth curves for the annual average concentrations for each year of calculation;

(e) for each contaminant, a table showing the location of each calculation point and its annual average, for each year of calculation;

(f) for each contaminant, a table showing the maximum annual average concentration ( $C_{AN}$ ) calculated for all the calculation points and years and its location, the ambient level, the sum of the maximum annual average concentration and ambient level, and the criteria that applies to the contaminant; and

(g) the input data required for the operation of the model in a form compatible with its use (model input file) for the modeling carried out.

### SCHEDULE I

(ss. 75, 87, 89 and 100)

#### TOXICITY EQUIVALENCY FACTORS FOR POLYCHLORINATED DIBENZOFURAN AND POLYCHLORINATED DIBENZO[b,e][1,4]DIOXIN CONGENERS

Congeners	Toxicity equivalency factor
2,3,7,8-tetrachlorodibenzodioxin	1
1,2,3,7,8-pentachlorodibenzodioxin	1
1,2,3,4,7,8-hexachlorodibenzodioxin	0.1
1,2,3,6,7,8-hexachlorodibenzodioxin	0.1
1,2,3,7,8,9-hexachlorodibenzodioxin	0.1
1,2,3,4,6,7,8-heptachlorodibenzodioxin	0.01
Octachlorodibenzodioxin	0.0001
2,3,7,8-tetrachlorodibenzodioxin	0.1
1,2,3,7,8-pentachlorodibenzofuran	0.05
2,3,4,7,8-pentachlorodibenzofuran	0.5
1,2,3,4,7,8-hexachlorodibenzofuran	0.1
1,2,3,6,7,8-hexachlorodibenzofuran	0.1
1,2,3,7,8,9-hexachlorodibenzofuran	0.1
2,3,4,6,7,8-hexachlorodibenzofuran	0.1
1,2,3,4,6,7,8-heptachlorodibenzofuran	0.01
1,2,3,4,7,8,9-heptachlorodibenzofuran	0.01
Octachlorodibenzofuran	0.0001

### SCHEDULE J

(ss. 63, 64 and 65)

#### QUÉBEC NITROGEN OXIDE EMISSION MANAGEMENT AREA

##### Technical description

The Québec nitrogen oxide emission management area is that part of the territory of Québec delimited as follows:

commencing at point A situated at the intersection of the border between Québec and Ontario having parallel of latitude 46°00'00" N.;

thence, easterly, following parallel of latitude 46°00'00" N. to its intersection with meridian of longitude 76°09'00" W., or Point B;

thence, northerly, following meridian of longitude 76°09'00" W. to its intersection with parallel of latitude 46°13'48" N., or Point C;

thence, easterly, following parallel of latitude 46°13'48" N. to its intersection with meridian of longitude 75°00'00" W., or Point D;

thence, northerly, following meridian of longitude 75°00'00" W. to its intersection with parallel of latitude 46°21'00" N., or Point E;

thence, easterly, following parallel of latitude 46°21'00" N. to its intersection with meridian of longitude 73°28'12" W., or Point F;

thence, northerly, following meridian of longitude 73°28'12" W. to its intersection with parallel of latitude 46°36'36" N., or Point G;

thence, easterly, following parallel of latitude 46°36'36" N. to its intersection with meridian of longitude 73°00'00" W., or Point H;

thence, northerly, following meridian of longitude 73°00'00" W. to its intersection with parallel of latitude 46°51'00" N., or Point I;

thence, easterly, following parallel of latitude 46°51'00" N. to its intersection with meridian of longitude 72°16'12" W., or Point J;

thence, northerly, following meridian of longitude 72°16'12" W. to its intersection with parallel of latitude 47°09'36" N., or Point K;

thence, easterly, following parallel of latitude 47°09'36" N. to its intersection with meridian of longitude 70°34'48" W., or Point L;

thence, southerly, following meridian of longitude 70°34'48" W. to its intersection with parallel of latitude 46°49'48" N., or Point M;

thence, easterly, following parallel of latitude 46°49'48" N. to its intersection with meridian of longitude 70°00'00" W., or Point N;

thence, southerly, following meridian of longitude 70°00'00" W. to its intersection with the border between Québec (Canada) and the United States of America, or Point O;

thence, in average southwesterly and westerly directions, following the border between Québec (Canada) and the United States of America to its intersection with the border between Québec and Ontario, or Point P;

thence, in average northerly and westerly directions, following the border between Québec and Ontario to its intersection with parallel of latitude 46°00'00" N., or point of commencement A.

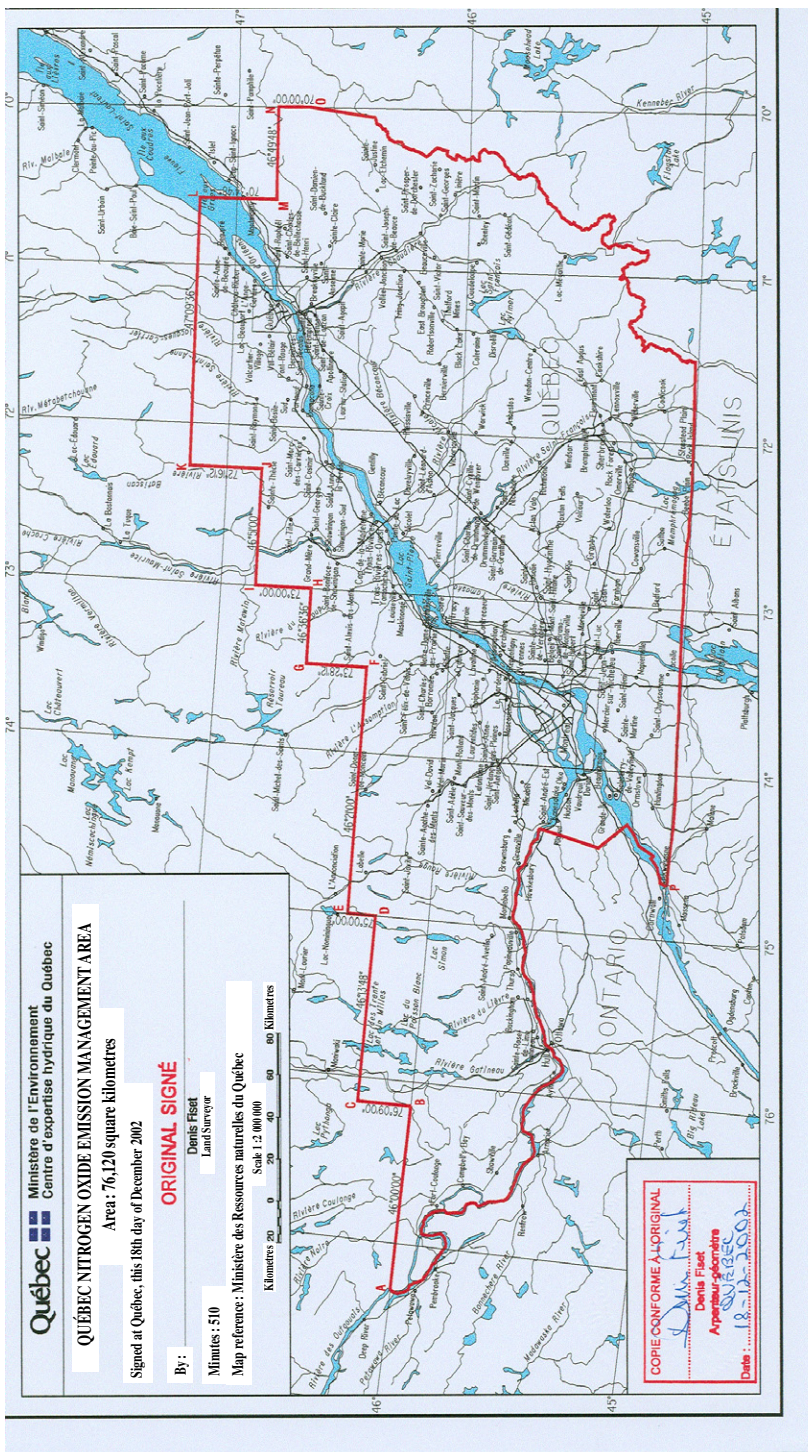
The area as delimited covers an area of 76,120 square kilometres.

The area is represented on the attached extract, at a scale of 1:2 000 000, of a general map of Québec prepared by the Ministère des Ressources naturelles du Québec.

Prepared at Québec, this 18th day of December 2002, under number 510 of my minutes.

By: \_\_\_\_\_  
DENIS FISET,  
*Land surveyor*

Ministère de l'Environnement  
Centre d'expertise hydrique du Québec  
Service de la gestion du domaine hydrique de l'État





**SCHEDULE K**

(ss. 194 and 195)

## AMBIENT AIR QUALITY STANDARDS

Nature of contaminants	CAS number*	Column 1	Column 2	Period (average/unit of time)
		Limit concentration ( $\mu\text{g}/\text{m}^3$ )	Average initial concentration ( $\mu\text{g}/\text{m}^3$ )	
Acetone	67-64-1	900	4	1 year
Acetonitrile	75-05-8	30	10	1 year
Acetophenone	98-86-2	100	0	1 year
Acrylamide	79-06-1	0.0002	0	1 year
Acrylic acid	79-10-7	6,000	0	1 hour
Acrylic acid	79-10-7	1	0	1 year
Acrylonitrile	107-13-1	0.01	0	1 year
Ammonia	7664-41-7	3,200	20	1 hour
Ammonia	7664-41-7	100	20	1 year
Aniline	62-53-3	0.5	0	1 year
Antimony, metal and compounds (expressed as Sb)	7440-36-0	0.17	0.007	1 year
Arsenic, elemental and inorganic compounds (except arsine), (expressed as As)	7440-38-2	0.003	0.002	1 year
Barium, metal and soluble compounds (expressed as Ba)	7440-39-3	0.05	0.025	1 year
Benzaldehyde	100-52-7	100	0	1 year
Benzene	71-43-2	10	3	24 hours
Benzo[a]pyrene	50-32-8	0.0009	0.0003	1 year
Beryllium, metal and compounds (expressed as Be)	7440-41-7	0.0004	0	1 year
Bromoform	75-25-2	0.9	0.01	1 year
Bromomethane	74-83-9	5	0.4	1 year
Cadmium compounds (expressed as Cd)	7440-43-9	0.0036	0.003	1 year
Carbon disulphide	75-15-0	50	0	4 minutes
Carbon monoxide	630-08-0	34,000	900	1 hour
Carbon monoxide	630-08-0	12,700	900	8 hours

Nature of contaminants	CAS number*	Column 1	Column 2	Period (average/unit of time)
		Limit concentration ( $\mu\text{g}/\text{m}^3$ )	Average initial concentration ( $\mu\text{g}/\text{m}^3$ )	
Chlorine dioxide	10049-04-4	0.2	0	1 year
Chlorobenzene	108-90-7	2.1	0.3	1 year
Chloroethane	75-00-3	10,900	0	4 minutes
Chloroethane	75-00-3	500	0	1 year
Bis(chloromethyl)ether	542-88-1	0.000016	0	1 year
3-Chloropropene	107-05-1	0.05	0	1 year
Chromium	7440-47-3	0.004	0.0037	1 year
Cumene	98-82-8	40	0	4 minutes
Cumene	98-82-8	20	0	1 year
1,1-Dibromo-3-chloropropane	96-12-8	0.01	0	1 year
1,2-Dibromoethane	106-93-4	0.025	0.020	1 year
o-Dichlorobenzene	95-50-1	4,200	0	4 minutes
o-Dichlorobenzene	95-50-1	200	0	1 year
p-Dichlorobenzene	106-46-7	730	0	4 minutes
p-Dichlorobenzene	106-46-7	95	0	1 year
Dichloroethyl ether	111-44-4	0.003	0	1 year
Dichloromethane	75-09-2	14,000	1.5	1 hour
Dichloromethane	75-09-2	2	1.5	1 year
1,2-Dichloropropane	78-87-5	4	0	1 year
Dichloropropene	542-75-6	0.2	0	1 year
N,N-Dimethylaniline	121-69-7	2	0	1 year
N,N-Dimethylformamide	68-12-2	6	6	1 year
Dioxins and furans (in toxic equivalents of 2,3,7,8-T <sub>4</sub> CDD)	1746-01-6	0.00000006	0.00000004	1 year
1,2-Epoxybutane	106-88-7	20	0	1 year
Epychlorohydrin	106-89-8	0.8	0	1 year
Ethylbenzene	100-41-4	200	0	1 year
Ethylene oxide	75-21-8	0.01	0	1 year
Fine particles (PM <sub>2.5</sub> )		30	20	24 hours
Formaldehyde	50-00-0	37	3	4 minutes

Nature of contaminants	CAS number*	Column 1	Column 2	Period (average/unit of time)
		Limit concentration ( $\mu\text{g}/\text{m}^3$ )	Average initial concentration ( $\mu\text{g}/\text{m}^3$ )	
Hexachloroethane	67-72-1	0.15	0	1 year
Hydrogen chloride	7647-01-1	2,100	0	1 hour
Hydrogen chloride	7647-01-1	20	0	1 year
Hydrogen sulphide	7783-06-4	6	0	4 minutes
Hydrogen sulphide	7783-06-4	2	0	1 year
Lead	7439-92-1	0.1	0.025	1 year
Methanol	67-56-1	28,000	30	1 hour
Methanol	67-56-1	50	30	1 year
Methyl ethyl ketone	78-93-3	5,800		4 minutes
Methyl ethyl ketone	78-93-3	1,300		1 hour
Methyl ethyl ketone	78-93-3	500	1.5	1 year
Methyl methacrylate	80-62-6	200	0	4 minutes
Methyl tert butyl ether	1634-04-4	150	0	1 year
Naphthalene	91-20-3	200	0	4 minutes
Naphthalene	91-20-3	3	0	1 year
Nickel compounds	7440-02-0	6	0.01	1 hour
Nickel compounds	7440-02-0	0.012	0.01	1 year
Nitrobenzene	98-95-3	0.55	0.5	1 year
Nitrogen dioxide	10102-44-0	414	50	1 hour
Nitrogen dioxide	10102-44-0	207	50	24 hours
Nitrogen dioxide	10102-44-0	103	50	1 year
2-Nitropropane	79-46-9	1	0	1 year
Normal hexane	110-54-3	10	3	1 year
Ozone	10028-15-6	157	60	1 hour
Ozone	10028-15-6	125	60	8 hours
Pentachlorophenol	87-86-5	0.8	0.5	1 year
Phenol	108-95-2	230	0	4 minutes
Phosphine	7803-51-2	0.15	0	1 year
Phosphoric acid	7664-38-2	10	0	1 year

Nature of contaminants	CAS number*	Column 1	Column 2	Period (average/unit of time)
		Limit concentration (µg/m <sup>3</sup> )	Average initial concentration (µg/m <sup>3</sup> )	
Propylene oxide	75-56-9	3,100	0	1 hour
Propylene oxide	75-56-9	0.3	0	1 year
Silver (soluble compounds, expressed as Ag)	7440-22-4	0.23	0.005	1 year
Styrene monomer	100-42-5	150	0	4 minutes
Sulphur dioxide	7446-09-5	525	15	4 minutes
Sulphur dioxide	7446-09-5	228	15	24 hours
Sulphur dioxide	7446-09-5	52	15	1 year
1,1,2,2-Tetrachloroethane	79-34-5	0.05	0.03	1 year
Tetrachloroethylene	127-18-4	2	1	1 year
Tetrachloromethane	56-23-5	1,900	0.7	7 hours
Tetrachloromethane	56-23-5	1	0.7	1 year
Thallium	7440-28-0	0.25	0.05	1 year
Toluene	108-88-3	600	12	4 minutes
Toluene	108-88-3	400	12	1 year
1,1,2-Trichloroethane	79-00-5	0.06	0.04	1 year
Trichloroethylene	79-01-6	0.34	0.3	1 year
Triethylamine	121-44-8	2,800	0	1 hour
Triethylamine	121-44-8	7	0	1 year
Vanadium	7440-62-2	1	0.01	1 year
Vinyl acetate	108-05-4	400	0	15 minutes
Vinyl acetate	108-05-4	100	0	1 year
Vinyl chloride	75-01-4	0.1	0.03	1 year
Vinylidene chloride	75-35-4	0.05	0.04	1 year
Xylene (o-,m-,p-isomers)	1330-20-7	1,500	8	15 minutes
Xylene (o-,m-,p-isomers)	1330-20-7	100	8	1 year

• The figures appearing opposite the contaminants listed in the Schedule are those of the identification code assigned by the Chemical Abstract Services of the American Chemical Society.