

Compliance Guide

Chromium Electroplating, Chromium Anodizing and Reverse Etching Regulations

Under the *Canadian Environmental Protection Act, 1999 (CEPA 1999)*

Disclaimer

The information in this document is provided for compliance promotion purposes. Please note that in the event of inconsistencies between this document and the *Canadian Environmental Protection Act, 1999 (CEPA 1999)* or between this document and the *Chromium Electroplating, Chromium Anodizing and Reverse Etching Regulations*, CEPA 1999 or the Regulations, as the case may be, will prevail.

Notice

Any comments or inquiries concerning the content of this compliance guide should be directed to the Environment Canada regional contacts in your area, as listed in Appendix B.

Aussi disponible en français.

June 2009

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Introduction

This compliance guide explains the requirements of the *Chromium Electroplating, Chromium Anodizing and Reverse Etching Regulations* (referred to as the “Regulations” in this guide).

This guide has been prepared to assist regulatees to comply with the provisions of the Regulations. Care has been taken to ensure that this guide accurately reflects requirements enacted in the *Canadian Environmental Protection Act, 1999* (CEPA 1999) and the Regulations. Please note that in the event of inconsistencies between this compliance guide and CEPA 1999, or between this document and the Regulations, CEPA 1999 or the Regulations, as the case may be, will prevail. Please consult the CEPA Registry for the latest version of the Regulations (www.ec.gc.ca/ceparegistry/regulations/default.cfm).

Background

Chromium and its compounds were included in the list of 44 substances published in the first Priority Substances List in the *Canada Gazette*, Part I, in 1989, under the *Canadian Environmental Protection Act* of 1988 (CEPA 1988). These substances were given priority by the Ministers of the Environment and of Health for assessing whether they are “toxic or capable of becoming toxic” according to the criteria set out in section 11 of CEPA 1988. The report entitled *Canadian Environmental Protection Act, Priority Substance List Assessment Report, Chromium and its Compounds (1994)* concluded that hexavalent chromium compounds (HVC) were toxic to the environment and to human health. A synopsis of the report was published in the *Canada Gazette*, Part I, on February 5, 1994. On the basis of documented carcinogenicity in human populations, hexavalent chromium has also been included in Group I (Carcinogenic to Humans) of the classification scheme developed for the determination of “toxic” under paragraph 11(c) of CEPA 1988.

Under the federal government’s Toxic Substances Management Policy, HVC are Track 2 substances and thus require management throughout their entire life cycle to prevent or minimize releases to the environment. There was an extensive multi-stakeholder consultations process from 1995–1997 through a Strategic Option Process (SOP) Issue Table to provide recommendations on how best to manage HVC. The final report entitled *Strategic Options for the Management of Toxic Substances from the Metal Finishing Industry*, released in April 1999, recommended that standards or guidelines be developed to reduce air emissions of HVC from the metal finishing industry. Shortly after the release of the SOP report, the Minister of the Environment announced that regulations would be developed under CEPA 1999 to reduce emissions of HVC from this sector.

Coming into force

The final Regulations were published in the *Canada Gazette*, Part II, on June 24th, 2009. These Regulations come into force 30 days after the day on which they are registered, that is, July 4th, 2009.

Application

The Regulations apply to any person that uses a solution containing HVC for chromium electroplating, chromium anodizing or reverse etching in a tank located at a facility using 50 kg or more of chromium trioxide (CrO_3) per calendar year.

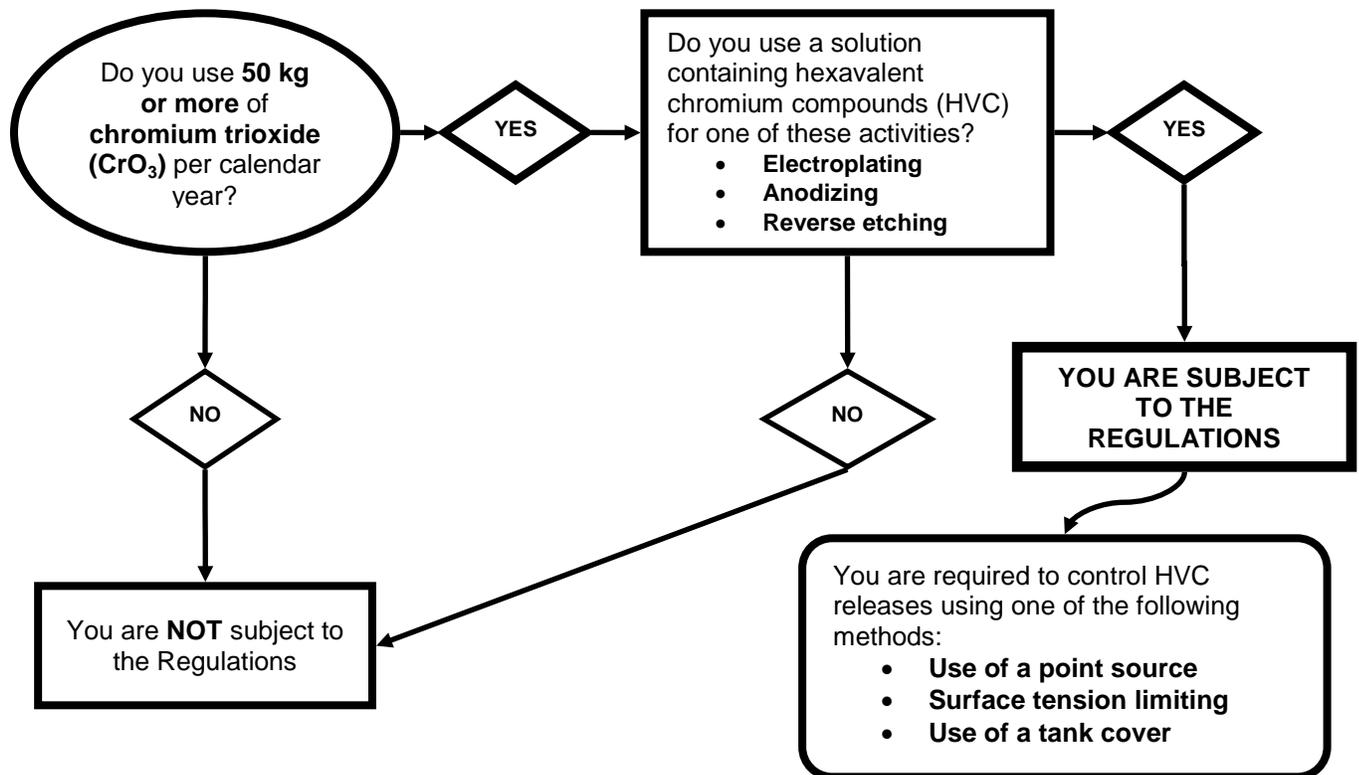
Possible control methods (subsection 3(1))

The purpose of the Regulations is to reduce the air emissions of HVC from chromium electroplating, chromium anodizing or reverse etching facilities. The Regulations allow three methods to reduce the release of hexavalent chromium:

1. Use of a point source (sections 4 to 6)
2. Limiting the surface tension (section 7)
3. Use of a tank cover (sections 8 to 10)

Decisional flow chart

This flow chart may help you to determine some of your responsibilities under the Regulations.



General requirements (subsections 3(1) to 3(3))

Notice to be submitted to the Minister of the Environment

Pursuant to section 3 of the Regulations, a notice must be submitted to the Minister indicating, for each tank, the method used to control the release of HVC.

Please submit this notice to the following address:

National Chromium Coordinator
Chemical Production Division
Environment Canada
351 St. Joseph Boulevard, 11th Floor
Gatineau, QC K1A 0H3
Fax number: 819-938-4218
Email address: EC.Chrome-Chromium.EC@Canada.ca

Existing facility notice requirements

An existing facility is a facility at which chromium electroplating, chromium anodizing or reverse etching is carried out on the coming into force of the Regulations.

Every person must submit a notice to the Minister indicating, for each tank, the method to be used to control the release of HVC within 30 days after the coming into force of the Regulations, i.e. by August 3rd, 2009. If the surface tension limiting method is chosen, the notice must state which device will be used to measure surface tension: tensiometer or stalagmometer.

The person must also submit a notice to the Minister of their intent to change either the method of controlling HVC releases or the surface tension measurement method.

New facility notice requirements

A new facility is a facility at which no chromium electroplating, chromium anodizing or reverse etching activities was carried out on the coming into force of the Regulations.

The person must submit a notice to the Minister indicating, for each tank, the method to be used to control the release of HVC at least 30 days before the beginning of the activity. If the surface tension limiting method is chosen, the notice must also state which device will be used to measure surface tension: a tensiometer or a stalagmometer.

The person must also submit a notice to the Minister of their intent to change either the method of controlling HVC releases or the surface tension measurement method.

1) Use of a point source (sections 4 to 6)

Method summary

One method allowed under the Regulations is to control HVC releases by using a control device and meet a point source (i.e., a stack) release limit. This control method requires that HVC releases from chromium electroplating, chromium anodizing and reverse etching processes be

collected and directed to a control device. The control device is sized with proper attention to correct ventilation rates to ensure the collection, removal and treatment of HVC emissions from chromium electroplating, chromium anodizing and reverse etching processes. The control devices usually used to reduce HVC releases include Composite Mesh Pad (CMP) or Packed Bed Scrubbers (PBS). After the control device, the treated air stream is released to the atmosphere from a stack. At this release point, **the Regulations require that the release limit for HVC must not be more than 0.03 mg/dscm**. Therefore, any type of control device chosen must be capable of achieving this release limit.

Conditions (section 4)

Every person that controls the release of HVC by using a point source (stack or vent) must use a control device in the emission collection system and must not release more than 0.03 mg/dscm of HVC (or total chromium) from any point source. This release limit becomes effective 30 months after the day on which the Regulations come into force, i.e. by January 4th, 2012. Moreover, an inspection and maintenance plan must be prepared and inspections must be carried out at least every three months.

Release test performed before the Regulations come into force (subsection 5(2))

If a person has performed a release test at a point source within 24 months before the day on which the Regulations come into force (between July 4th 2007 and July 4th, 2009), the person may perform a new release test every five years after the day on which that test was performed, if:

- (a) The test was performed in accordance with subsection 5(4) of the Regulations at each point source. These release test conditions are described below;
- (b) The average of the three sampling runs did not exceed 0.03 mg/dscm; and
- (c) A report containing the results of that test and other information must be submitted to the Minister within 60 days after the Regulations come into force, i.e. by September 2nd, 2009.

Release test performed after the Regulations come into force (subsections 5(1) and 5(5))

If no release test has been performed within 24 months before the coming into force of the Regulations, a release test must be performed at each point source and must establish compliance with the 0.03 mg/dscm limit within 30 months after the Regulations come into force, i.e. by January 4th, 2012. Thereafter, a new release test must be performed at least every five years after the day on which the most recent test establishing compliance with the Regulations was performed. Note that every person that intends to perform a release test must notify the Minister at least 30 days before performing the test, specifying the civic address of the facility at which, and the three-day period within which, the test will be performed. This notice must be sent to the NATIONAL CHROMIUM COORDINATOR (see above for the address).

Process modifications requiring a new release test within 75 days after completing the operation (subsection 5(3))

These modifications include:

- Replacing a control device;
- Increasing by more than 25% the total surface area of the solution in one or more tanks connected to a control device;
- Installing one or more tanks to increase by more than 25% the total surface area of the solution in the tanks connected to a control device;
- Making changes to the ventilation system connected to a tank that affect the velocity or the flow rate of the ventilation other than a change that results from removing or isolating

a tank from that system if the release of HVC from that tank is not controlled by using a point source.

Conditions applicable to all release tests (subsection 5(4))

The Regulations specify the technical parameters to be observed when performing a release test. First, the test must be performed under representative operating conditions without using dilution air. Then, the sampling must be performed in accordance with generally accepted standards and consist of three two-hour sampling runs (with a minimum sampling total volume of 1.7 dscm). The analysis of the samples must also be performed in accordance with generally accepted standards by a laboratory located in Canada that is accredited by a Canadian accrediting body under the standard ISO/IEC 17025: 2005. Moreover, the analysis must be carried out with an analytical method whose precision and accuracy are based on a minimum of seven replicate samples and that has:

- A method detection limit of at least 8 µg/L of chromium;
- A precision of 5% relative standard deviation at 10 times the method detection limit;
- An accuracy of 100% ± 5% based on analyte recovery at least 10 times the method detection limit.

Finally, the average of three sampling runs must not exceed the chromium release limit of 0.03 mg/dscm.

Inspection and maintenance of control devices (section 6)

Every person that uses a point source in order to control HVC release must prepare and implement an inspection and maintenance plan. Note that the inspection and maintenance plan is mandatory and must be prepared and implemented 30 months after the Regulations come into force, i.e. by January 4th, 2012. Control devices must be inspected at least **every three months** to verify the following:

- The control device surfaces and all its components are free from any fracture or deformation;
- The ductwork between the control device and any tank does not leak and is not broken;
- The filtering media within the control device are free of any blockage and there is no buildup that would affect the operation of the device;
- There are no visible signs of HVC at the exit of the control device.

If a Composite Mesh Pad System is used, the inspection and maintenance plan must also include the following tasks:

- Verifying that there is no buildup on the mesh pads;
- If the mesh pads are not continuously washed, washing the mesh pads for at least 20 minutes at least twice during every eight hours of operation with an interval of at least three hours between washes, **or** in accordance with the manufacturer's recommendations.

In addition, if any defect is identified in the course of an inspection, the defect has to be corrected before resuming any plating activities. Note that there is no report to submit under this section; however, reports must be kept. The information that must be recorded is the following:

- The date on which the inspection and maintenance tasks were performed;
- A description of each inspection and maintenance task performed
- The date on which each defect was identified;
- A description of the measures taken to correct the defect.

Reporting requirements for all release tests (subsection 11(1))

(Reporting form is determined by the Minister)

Pursuant to subsection 11(1) of the Regulations, every person that performs a release test must submit a report to the Minister. Please submit this report to the following address:

National Chromium Coordinator
Chemical Production Division
Environment Canada
351 St. Joseph Boulevard, 11th Floor
Gatineau, QC K1A 0H3
Fax number: 819-938-4218
Email address: EC.Chrome-Chromium.EC@Canada.ca

Every person that performed a release test must, within 75 days after the last sample is taken, submit to the Minister a report respecting each point source containing the following information:

- The date the sampling was performed and the time the sampling was started and completed;
- Test results;
- Location on a floor plan of the point source and any tanks, control devices and fans connected to this point source at the time the sampling was performed;
- Test method used;
- In respect of tanks connected to the point source at the time of the sampling, number of tanks in use during the test and number of tanks that were not in use, if any;
- Description of the ventilation system for each tank in use and connected to the point source at the time the sampling was performed;
- Respective diameters of the ducts linking each tank in use and connected to the point source at the time the sampling was performed;
- Electrical output setting for each tank's rectifier at the time the sampling was performed;
- If a stack was used:
 - Dimension of the stack;
 - Diameter and location of each sampling port in relation to the point of release from the stack;
 - Type of extension, if any, as well as its dimensions and the location on the extension of each sampling port;
- Control device:
 - Dimension, type and name of the manufacturer for each control device in use at the time the sampling was performed;
 - Model and name of the manufacturer for each control device fan and its rated capacity as established by its manufacturer;
- Concentration (mg/dscm) of HVC, if measured separately, or of total chromium:
 - For each of the three sampling runs required;
 - Average concentration calculated for those runs.

The reporting form for release test is determined by the Minister. Contact your Environment Canada Regional Office to obtain a form or consult the following website: www.ec.gc.ca/toxics.

Important dates when using a point source

Event	Date
Earliest date that a point source release test must be performed prior to the Regulations coming into force.	24 months before the coming into force of the Regulations (July 4 th , 2007 and July 4 th , 2009)
Registration of the Regulations.	June 4 th , 2009
Coming into force of the Regulations.	July 4 th , 2009
Regulatees must notify the Minister of their chosen control method for each tank.	Within 30 days after the day the Regulations come into force. (August 3 rd , 2009)
The results of the release tests performed before the coming into force of the Regulations must be submitted to the Minister.	Within 60 days after the day the Regulations come into force. (September 2 nd , 2009)
Regulatees that have chosen the point source control method must meet the 0.03 mg/dscm limit.	Within 30 months after the day the Regulations come into force. (January 4 th , 2009)
Regulatees must submit a report to the Minister on release test performed after the coming into force of the Regulations.	Within 75 days after the last sample is taken for the test.

2) Limiting the surface tension (section 7)

Method summary

During chromium electroplating, chromium anodizing and reverse etching processes, hydrogen and oxygen gases are released at the cathode and anode. These gases, which are generated by the electrolytic decomposition of water (H₂O) and the chromate ion (CrO₃²⁻), are released at the surface of the solution and, upon bursting at the surface, form a mist of chromic acid. By adding a fume suppressant to reduce the surface tension of the plating solution, the energy of the bursting is reduced, much less chromic acid mist is formed and, therefore, less HVC is released.

Fume suppressants containing perfluorooctane sulphonate (PFOS)

On June 11, 2008, Environment Canada promulgated the *Perfluorooctane Sulphonate and its Salts and Certain Other Compounds Regulations* (PFOS Regulations). These PFOS Regulations target the use of PFOS in fume suppressants (wetting agents) in chromium

electroplating, chromium anodizing and reverse etching processes. The PFOS Regulations allow fume suppressants that contain PFOS to be used for a period of five years after the coming into force of the PFOS Regulations (May 29, 2008). This means that fume suppressants containing PFOS can continue to be used for limiting the surface tension of chromium electroplating, chromium anodizing and reverse etching solutions to comply with the *Chromium Electroplating, Chromium Anodizing and Reverse Etching Regulations* until May 28, 2013.

Conditions (subsections 7(1), 7(2) and 7(4))

Every person that controls the release of HVC by limiting the surface tension of the solution must maintain that surface tension in the tank at a value less than **35 dyn/cm if the surface tension is measured with a tensiometer** or **45 dyn/cm if the surface tension is measured with a stalagmometer**. The Regulations stipulate two different surface tension limits, depending on which device is used to measure surface tension, because the stalagmometer produces consistently higher surface tension readings for the same sample solution than those obtained with a tensiometer. To ensure that these measurement devices are used properly, the surface tension must be measured in accordance with method ASTM D 1331-89 if a tensiometer is used and in accordance with the manufacturer's instructions if a stalagmometer is used. Note that these limits apply three months after the Regulations come into force, i.e. by October 4th, 2009.

Frequency of measurement (subsections 7(3) and 7(5))

Every person that controls the release of HVC from a tank by limiting the surface tension must measure and record, for each tank, the surface tension of the solution once every day during which the tank is used, and the surface tension measurements have to be taken at least 16 hours apart. If a tank is not used for more than 24 consecutive hours, the surface tension must be measured and, if necessary, reduced to less than the value prescribed before resuming any chromium electroplating, chromium anodizing or reverse etching activity.

Reporting requirement (subsections 11(2) and 11(3))

(Reporting form is determined by the Minister)

Every person that controls the release of HVC by limiting the surface tension must submit a report to the Minister setting out the surface tension. For surface tension recorded from January 1 to June 30, the report must be submitted no later than July 31 of the same calendar year. For surface tension recorded from July 1 to December 31, the report must be submitted no later than January 31 of the next calendar year. However, for the year 2009, only one report must be submitted, no later than January 31, 2010. Please note that the reporting form for surface tension is determined by the Minister. Contact your Environment Canada regional office to obtain a form or consult the following website: www.ec.gc.ca/toxics.

All surface tension reports must be submitted to:

National Chromium Coordinator
Chemical Production Division
Environment Canada
351 St. Joseph Boulevard, 11th Floor
Gatineau, QC K1A 0H3
Fax number: 819-938-4218
Email address: EC.Chrome-Chromium.EC@Canada.ca

Important dates when limiting the surface tension

Event	Date
Registration of the Regulations.	June 4th, 2009
Coming into force of the Regulations.	July 4th, 2009
<p>Regulatees must notify the Minister of their chosen control method for each tank.</p> <p>If regulatees have chosen the surface tension limiting control method, they also need to notify the Minister of which device is used to measure surface tension: tensiometer or stalagmometer.</p>	Within 30 days after the day the Regulations come into force. (August 3rd, 2009)
<p>Effective date of surface tension limits:</p> <ul style="list-style-type: none"> • Surface tension less than 35 dyn/cm if measured with a tensiometer; • Surface tension less than 45 dyn/cm if measured with a stalagmometer. 	Within three months after the day the Regulations come into force (October 4th, 2009)
Regulatees must submit to the Minister a report setting out the surface tension recorded.	<p>July 31st of the same calendar year for surface tension recorded from January 1st to June 30th.</p> <p>January 1st of the next calendar year for surface tension recorded between July 1st and December 31st.</p>

3) Use of a tank cover (sections 8 to 10)

Method summary

The Regulations allow the use of a tank cover over a chromium electroplating, chromium anodizing or reverse etching tank to control the release of hexavalent chromium compounds. Hydrogen and oxygen gas generated during the plating process pass through a selective membrane and are released into the plating room environment. Water vapour and HVC do not pass through the membrane, but condense within the confines of the tank cover and drain back to the tank. At the end of each plating cycle, an evacuation process removes the air under the cover (which may contain HVC) through a HEPA filter before the cover can be opened. Because the Regulations require that all plating be stopped and an evacuation cycle be conducted before the tank cover can be opened, this control method may not be suited to all chromium electroplating, chromium anodizing or reverse etching processes.

Conditions (section 8)

Every person that controls the release of HVC by using a tank cover must ensure that the cover completely encloses the open surface area of the tank and that the cover has a seal that joins the cover to the tank. Furthermore, the closed tank cover system must have a membrane inset in the cover that has a minimum surface area of 0.28 m²/kA of current and pore openings not larger than 1 µm. Finally, the cover must have an evacuation device that is attached to the outside of the cover and that has a HEPA filter with pore openings no larger than 0.1 µm.

Inspection and maintenance of a tank cover (subsections 9(1) to 9(3))

Every person that uses a tank cover must prepare and implement an inspection and maintenance plan. That plan must be in accordance with the instructions of the manufacturer of the tank cover and must at least include the following tasks:

- Induction of an external pressure on the membrane while the tank cover is closed and the tank is in operation to verify that the membrane moves outward – **each day that the cover is used**;
- Drainage of the air inlet by purging the air valves – **at the end of each day the tank is operated or end of each cycle**; and
 - If the membrane does not move inward during the purge, then a verification of the seal of the tank cover must be performed;
- Inspection of the access doors and membranes to determine whether the tank cover leaks or if there are any tears in the membrane – **at least once a week**;
- Drainage of the evacuation device into the tank – **at least once a week**;
- Inspection of the membrane for perforations using a light source – **at least once a month**;
- Inspection of all clamps that hold the tank cover closed and replacement of any defective clamps – **at least once a month**;
- Inspection of all piping to and from the evacuation device to verify that there are no leaks and no evidence of deterioration – **at least once every three months**;
- Replacement of the HEPA filter on the evacuation device – **at least once a year**.

Note that it is mandatory that the plan be prepared and implemented six months after the Regulations come into force, i.e. by January 4th, 2010. Moreover, if any defect is identified in the course of an inspection, the defect has to be corrected before resuming any plating activities. There is no report to submit under this section, but records must be kept. The information that must be recorded is the following:

- The date on which inspections and maintenance tasks were performed;
- A description of each inspection and maintenance task performed;
- The date on which each defect was identified;
- A description of the measures taken to correct the defect.

Smoke test (section 10)

Before the first use of the tank cover and every three months thereafter, a smoke test must be performed to determine whether the cover leaks. For an existing facility that already uses a tank cover to control the release of HVC, note that the first smoke test must be conducted no later than six months after the Regulations come into force, i.e. by January 4th, 2009 and every three months thereafter.

The Regulations specify technical parameters to be observed when performing a smoke test. Thus, during the test, the smoke test device must generate 15 to 30 m³ of smoke for every 2 m² of tank surface, and the process used must allow the smoke test device to burn completely inside the tank while the tank cover is closed and to fill the space under the cover with smoke. If the smoke test detects any release of smoke, the cover must be repaired and the smoke test must be repeated until there are no leaks of smoke from the cover.

For every smoke test conducted, the following information must be recorded:

- Dates on which the smoke tests were conducted;
- Results of those tests;
- Name of the manufacturer of the smoke test device;
- A description of the steps taken in conducting each test;
- The sequence in which those steps were performed;
- If applicable, the location of any leaks and the measures taken to correct any defects.

Important dates when using a tank cover

Event	Date
Registration of the Regulations.	June 4th, 2009
Coming into force of the Regulations.	July 4th, 2009
Regulatees must notify the Minister of their chosen control method for each tank.	Within 30 days after the day the Regulations come into force. (August 3rd, 2009)
Closed tank covers are installed and operating properly on the tank. Smoke test as well as tank cover inspections and maintenance are now mandatory.	Within six months after the day the Regulations come into force. (January 4th, 2010)

Report of release into the environment (section 12)

Pursuant to the paragraph 95(1)(a) of CEPA 1999, in the case of occurrence, or likelihood of, a release of HVC into the environment, **in contravention of these Regulations**, the release must be notified and a written report must be provided to an enforcement officer, as soon as possible. In the case of these Regulations, a notification and a written report must be sent if a person controls the release of hexavalent chromium compounds by using a point source, and exceeds the prescribed limit of 0.03 mg/dscm.

The person who is required to provide the written report must provide it to **the Regional Director of the Environmental Enforcement Division in the region in which the release or likelihood of a release took place (please see Appendix C for the addresses)**.

The written report must contain the following information:

- The name, civic address and telephone number of the person submitting the report;
- The civic address of the facility where the release occurred or is likely to occur;
- In the case of a release, the date, time, duration and exact location of the release;
- In the case of a likelihood of a release, the date, time and location where the release is likely to occur;
- The estimated quantity of hexavalent chromium compound released or likely to be released;
- A description of the circumstances leading to the release or likely release including identification of its cause, if known, and any corrective action taken;
- A description of measures taken to remedy, reduce or mitigate any danger that results from the release or that may reasonably be expected to result if the release were to occur;
- The identification of all persons and agencies notified as a result of the release or likely release.

Additional information required for any notice or report (section 13)

All reports or notices submitted under the Regulations must be dated and signed:

- In the case of a corporation, by a person authorized to do so;
- In any other case, by a person submitting the notice or report or by a person authorized to act on that person's behalf.

The person submitting the notice or report must include the following information:

- Telephone number and fax number (including the area code);
- E-mail address, if any;
- Name of the owner or operator of the equipment;
- Civic address at which the equipment is located;
- Postal address (if different from the civic address);
- Name, title and e-mail address of the person who signed the notice or report.

Please note that all notices and reports **with the exception of reports required under section 12 of the Regulations** must be submitted to:

National Chromium Coordinator
 Chemical Production Division
 Environment Canada
 351 St. Joseph Boulevard, 11th Floor
 Gatineau, QC K1A 0H3
 Fax number: 819-938-4218
 Email address: EC.Chrome-Chromium.EC@Canada.ca

Record keeping (section 14)

All relevant information must be kept at least five years, beginning on the day of its creation, at the facility where the equipment is located. If the documents are not kept at the facility where

the equipment is located, a notification must be sent to the Minister to specify the location, in Canada, where the documents can be inspected by Environment Canada's enforcement officers. These documents could include all:

- Records;
- Reports;
- Inspection and maintenance plans;
- Floors plans depicting the location of the tanks, the location of control device and fans;
- Test results;
- Other information required by the Regulations.

Appendix A

Summary of the limits

Control method used		Limit
1) Use of a point source HVC concentration, if measured separately, or of total chromium in any other case.		0.03 mg/dscm
2) Limiting the surface tension	Surface tension measured with a tensiometer	35 dyn/cm
	Surface tension measured with a stalagmometer	45 dyn/cm
3) Use of a tank cover		There is no limit specified in the Regulations, only qualitative requirements.

Appendix B

Environment Canada regional contacts

To obtain any forms or for any information regarding the Regulations, please contact the Environment Canada's regional office serving your area at the following address:

Newfoundland and Labrador, Prince Edward Island, Nova Scotia and New Brunswick

Jerry Pulchan
Environment Canada
6 Bruce Street
Mount Pearl NL A1N 4T3
Phone: 709-772-2126
E-mail: jerry.pulchan@ec.gc.ca

Quebec

Thierry Mezzana
Environment Canada
105 McGill Street, 4th Floor
Montréal QC H2Y 2E7
Phone: 514-283-5311
E-mail: thierry.mezzana@ec.gc.ca

Ontario

Anita Li
Environment Canada
4905 Dufferin Street, 2nd Floor
Toronto ON M3H 5T4
Phone: 416-739-5889
E-mail: anita.li@ec.gc.ca

Hossein Naghdiane
Environment Canada
4905 Dufferin Street, 2nd Floor
Toronto ON M3H 5T4
Phone: 416-739-4921
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Appendix C (Section 12)

Environment Canada's Enforcement Branch regional offices

Any written report of release into the environment in contravention of the Regulations must be sent to the Regional Director of the Environmental Enforcement Division in the region in which the release or likelihood of a release took place, at the following address:

Newfoundland and Labrador, Prince Edward Island, Nova Scotia and New Brunswick

Regional Director
Environmental Enforcement Division
Environment Canada
Queen Square
45 Alderney Drive
Dartmouth NS B2Y 2N6
Fax: 902-426-7924

Quebec

Regional Director
Environmental Enforcement Division
Environment Canada
105 McGill Street, 3rd Floor
Montréal QC H2Y 2E7
Fax: 514-496-2087

Ontario

Regional Director
Environmental Enforcement Division
Environment Canada
845 Harrington Court
Burlington ON L7N 3P3
Fax: 905-333-3952

Manitoba, Saskatchewan, Alberta, Northwest Territories and Nunavut

Regional Director
Environmental Enforcement Division
Environment Canada
Twin Atria Building
4999-98th Avenue NW
Room 200
Edmonton AB T6B 2X3
Fax: 780-495-2451

British Columbia and Yukon

Regional Director
Environmental Enforcement Division
Environment Canada
201-401 Burrard Street, 4th Floor
Vancouver BC V6C 3S5
Fax: 604-666-9059