



Environnement et
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Environment and
Climate Change Canada



Environmental Emergency Regulations, 2019

Environmental Emergencies Program
Environment and Climate Change Canada

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Canada 

What we'll cover

- E2 Regulations under CEPA 1999
- Definitions/Terminology
- Addition of Substances
- Exclusions
- Developing/Implementing an E2 Plan
- Exercising an E2 Plan
- Public Notification
- Administrative Requirements
- Environmental Emergency Reporting



CEPA 1999 - Part 8 - E2 Regulations

- *The Environmental Emergency (E2) Regulations* under the *Canadian Environmental Protection Act, 1999* (CEPA) aim to help reduce the frequency and severity of accidental releases of hazardous substances into the environment by requiring higher-risk facilities to prepare an E2 plan
- Section 200 of CEPA provides the authority to make regulations for the *prevention* of, *preparedness* for, *response* to and *recovery* from environmental emergencies

E2 Regulations

The first E2 Regulations were published in 2003

- first amendments in 2011
- repeal and replace – the new E2 Regulations, 2019, were published in CGII on March 6, 2019 and *came into force on August 24, 2019*

Who can be subject to the E2 Regulations?

The regulations apply to any person who *owns* or has the *charge, management* or *control* of a specified substance located at a facility

Important Definitions

E2 Regulations

- **Facility** - a property on which one or more *fixed onshore installations* are located and where a substance is present.
- **Container System** – means any receptacle or network of receptacles including *pipelines and pipes* that are part of the system unless segregated from the rest of the network automatically or remotely by shut-off valves, or other mechanisms, in the event of any environmental emergency
- **Maximum capacity** in respect of a container system, means its *full physical capacity* including any capacity that is beyond the safe-fill limit set by the manufacturer

CEPA

- Section 193 CEPA states that an **environmental emergency** is:
 - an uncontrolled, unplanned or accidental release, or release in contravention of regulations made under this Part, of a substance in the environment; or
 - the reasonable likelihood of the release of a substance into the environment

E2 Regulations – List of substances

- The E2 Regulations establish a *list of hazardous substances*
 - **249** substances now in total:
 - 33 substances added in the 2019 Regulations
 - All substances on Schedule 1 of the E2 Regulations have at least *one emergency hazard characteristic* (explosion hazard, pool fire hazard, combustible, inhalation hazard, aquatically toxic, oxidizer that may explode)
 - The E2 Regulations establish *minimum threshold quantities* for these substances, above which the Minister can require submission of information to Environment and Climate Change Canada and to prepare and exercise environmental emergency plans
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33 Substances added to Schedule 1

Item	CAS#	Name of Substance	Item	CAS #	Name of Substance
1	79-06-1	2-Propenamide	18	64741-47-5	Natural gas condensates, petroleum
2	80-05-7	Phenol, 4,4'-(1-methylethylidene)bis-	19	64741-48-6	Natural gas, petroleum, raw liquid mix
3	100-44-7	Benzene, (chloromethyl)-	20	64741-86-2	Distillates, petroleum, sweetened middle-mix
4	110-49-6	Ethanol, 2-methoxy-, acetate	21	64741-87-3	Naphtha, petroleum, sweetened
5	110-54-3	Hexane	22	64742-80-9	Distillates, petroleum, hydrodesulphurized middle
6	111-15-9	Ethanol, 2-ethoxy-, acetate	23	68334-30-5	Fuels, diesel
7	120-80-9	1,2-Benzenediol	24	68476-30-2	Fuel oil, No. 2
8	123-31-9	1,4-Benzenediol	25	68476-31-3	Fuel oil, No. 4
9	123-91-1	1,4-Dioxane	26	68476-33-5	Fuel oil, residual
10	126-73-8	Phosphoric acid, tributyl ester	27	68476-34-6	Fuels, diesel, No. 2
11	732-26-3	Phenol 2,4,6-tris(1,1-dimethylethyl)-	28	68527-27-5	Naphtha, petroleum, full-range alkylate, butane-containing
12	1314-62-1	Vanadium pentoxide	29	68553-00-4	Fuel oil, No. 6
13	1336-21-6	Ammonium hydroxide	30	68919-39-1	Natural gas condensates
14	7646-79-9	Cobalt chloride	31	72102-55-7	Methylium, [4-(dimethylamino)phenyl]bis[4-(ethylamino)-3-methylphenyl]-, acetate
15	8002-05-9	Petroleum crude oil	32	101316-57-8	Distillates, petroleum, hydrodesulfurized full-range middle
16	17540-75-9	Phenol, 2,6-bis(1,1-dimethylethyl)-4-(1-methylpropyl)-	33	128683-25-0	Crude oil, oil sand
17	41556-26-7	Decanedioic acid, bis(1,2,2,6,6-pentamethyl-4-piperidinyl) ester			

1 Substance removed from Schedule 1

Item	CAS#	Name of Substance
1	3333-67-3	Nickel carbonate

2 Substances entries divided in Schedule 1

Item	Substance entry in 2011 Regulations		Substance entry in 2019 Regulations	
	CAS#	Name of Substance	CAS#	Name of Substance
1	74-90-8	Hydrogen cyanide (hydrocyanic acid)	74-90-8	Hydrogen cyanide
			74-90-8	Hydrocyanic acid
2	10035-10-6	Hydrogen bromide (hydrobromic acid)	10035-10-6	Hydrogen bromide
			10035-10-6	Hydrobromic acid

Exclusions

The E2 Regulations, 2019 include '*substance*', and '*quantity*' exclusions:

- Certain categories of substances are excluded from the definition of 'substance' and thus, excluded from the requirements under Part 8 of CEPA; and
- Quantities of substances, that are excluded from the determination of total quantity located at a facility.

Exclusions- Substances

- A substance is excluded if
 - a) it is listed as *combustible* or *likely to explode*; and
 - b) is present in a mixture which has a flashpoint $> 23^{\circ}\text{C}$ and a boiling point $> 35^{\circ}\text{C}$.
- If a substance that is hazardous via inhalation is present in a mixture in gaseous or liquid form and the mixture has a *total vapour pressure* of less than 1.33 kPa, then the substance is excluded.
- A substance that is used to fuel heating appliances or to generate power at a facility where the substance is located is excluded *only* if the substance is present at a quantity *below* its threshold specified in column 4 of Part 1 of Schedule 1.

Exclusions- Substances

- Substances regulated under the *Transportation of Dangerous Goods Act*, 1992 (TDGA) or the *Canada Shipping Act*, 2001 are excluded.
- Substances in a *pipeline*, that is located entirely within a province or territory and on a property with no fixed onshore installations other than pipelines, compressors stations or pump stations, are excluded.
- Substances in a *pipeline* that is regulated under the National Energy Board Onshore Pipeline Regulations or in a *processing plant* that is regulated under the National Energy Board Processing Plant Regulations, are excluded.
- A substance in a *fuel tank* that supplies an *engine of conveyance*.
- 3 related to the characteristics of specific substances
 - Naphthalene in solid form
 - Nickel oxide in the form of solid particles > 10 µm
 - Phosphorus in a form other than white phosphorus

Exclusions - Quantity

Some exclusions apply to the determination of total quantity of substances and the reporting of these substances:

- Substance stored at a facility for *72 hours or less* unless it is loaded or unloaded at the facility;
- Small quantities (30 kg or less);
- Quantities found in slag, waste rock, tailings, solid residues, ores and ore concentrates;
- Propane in a container system with a maximum capacity of *less than 10 t* and the container system is located at ≥ 360 m from all points along the boundary of the facility; and
- Anhydrous ammonia or ammonia solution used on-site as an agricultural nutrient in *farming operations*.

Does a facility have substances subject to the E2 Regulations, 2019?

Scenario 1: Product has a Chemical Abstract Number (CAS) # listed in Schedule 1 of the Regulations:

- Concentration is \geq the value listed in column 3 of Schedule 1 then substance subject to the E2 Regulations, 2019 unless the substance exclusions apply.

Scenario 2: Product has a CAS # not listed in Schedule 1 of the Regulations or it has no CAS #:

- Examine composition/information on ingredients listed on product's Safety Data Sheet (SDS) to determine if any have a CAS # that matches one listed in Schedule 1.
- If it has a CAS # in Schedule 1 and its concentration is \geq the value listed in column 3 of Schedule 1 then substance subject to the E2 Regulations, 2019 unless the substance exclusions apply.

Note: The assignment of CAS numbers to products is not covered by the E2 Regulations and is the responsibility of the regulatee

When is a facility first captured under the regulations?

A facility becomes subject to the notification requirements under the E2 Regulations, 2019, if it has on-site a substance specified in Schedule 1 at or above the threshold concentration in column 3 and:

- the maximum expected *quantity* on site, whether it is in a container system or not, is equal to or greater than the applicable minimum threshold quantity expressed in Column 4 of Schedule 1

or

- the maximum *capacity* of the largest container system is equal to or greater than the applicable minimum threshold quantity expressed in Column 4 of Schedule 1

Column 1	Column 2	Column 3	Column 4	Column 5
CAS Registry Number	Name of the Substance	Concentration (% mass/mass)	Minimum Quantity* (tonnes)	Hazard Category (Short Form)**
68553-00-4	Fuel oil, No. 6	1	2500 (~2.8 M Litres)	F

* Minimum Quantity = Threshold ** Hazard Category = F: Pool Fire Hazard

When does a facility need to develop and exercise an E2 Plan?

A facility must develop and exercise an E2 Plan if:

- Both the maximum expected *quantity* on site is in a container system and the maximum *capacity* of the largest container system are equal to or greater than the threshold quantity listed for the substance in column 4 of Schedule 1;
- or
- Some or all of the substance is uncontained and its maximum expected *quantity* is equal to or greater than the threshold quantity listed for the substance in column 4 of Schedule 1.

Column 1	Column 2	Column 3	Column 4	Column 5
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The E2 Plan

- An E2 Plan is required to be *prepared* within 6 months of meeting or exceeding both the substance quantity and container capacity thresholds or only the quantity threshold for a substance that is not in a container system
- The E2 plan must also be *implemented* within 1 year of meeting or exceeding both the substance quantity and container capacity thresholds or only the quantity threshold for a substance that is not in a container system
- The E2 plan must be *updated* annually
- An *existing plan* can be used but it must be amended as necessary to meet the requirements of the E2 Regulations, 2019

Emergency Response Plan Scenarios

- The E2 Plan must identify *scenarios* that are reasonably expected to occur that may cause harm to the environment or pose a danger to human life or health including *worst-case* and *alternative worst-case* scenario(s) for each E2 substance on-site.
 - Worst Case Scenario - The release of the *greatest quantity* of a hazardous substance, contained in the *largest container system* (or not in a container system)
 - Alternative worst-case scenarios are *more likely to occur* than worst-case scenarios and would have the *longest impact distance* outside the boundary of the facility;

Annual and Full Scale Simulation Exercises

Where an E2 Plan is required, once the plan has been brought into effect, the following criteria must be met:

- The Plan must be exercised every year with respect to one substance from each of the applicable hazard categories
 - Examples of annual exercises are: drill, tabletop, operational, functional
- A full scale exercise must be carried out every five years with respect to any one substance
 - Regulatees must conduct the exercises with the deployment of personnel, resources and equipment
- Record of simulation exercise - After each simulation exercise, a responsible person must prepare a *record* containing:
 - the *date* of the exercise,
 - the summary and the *results of the simulation* exercise, and
 - any *modifications* to be made to the E2 plan as a result of the simulation exercise

Public Notifications - Before an Environmental Emergency

- A responsible person, either *alone or jointly* with local authorities is required to communicate before an environmental emergency with the members of the public who may be adversely affected by the environmental emergency and inform them of:
 - the *possibility* that an environmental emergency(ies) could occur and have an impact distance outside the boundary of the facility;
 - the potential *consequences* of the environmental emergency(ies);
 - the *measures* that will be taken in the event that the environmental emergency occurs.

It is important to note that these notifications are for alternative worst-case scenarios where the impact distance is outside the boundary of the facility.

Public Notifications – During and After an Environmental Emergency

- A responsible person, either *alone or jointly* with local authorities is required to communicate during and after an environmental emergency with the members of the public who may be adversely affected by the environmental emergency and provide them with:
 - Information and guidance on the *measures* that will be taken in the event that the environmental emergency occurs to reduce the potential harm;
 - explanation of *how* the actions taken would reduce the harm.

Administrative Notices- Requirements

- The E2 Regulations, 2019 introduce new notices to be submitted to the Minister.
- There are:
 - New notices;
 - Changes to the existing notices;
 - Additional requirements in the notices.

Notice Submission/Reporting Timeline Summary

Notice	Information	Time for Notifying
Schedule 2	Company and Substance	Within 90 days of meeting or exceeding the specific threshold, and every five years thereafter; and
		Within 60 days after the reported company information has changed or either of the maximum expected quantity or maximum capacity has increased by 10% or more
Schedule 3	E2 Plan Preparation	Within six months of meeting or exceeding both the substance quantity and container capacity thresholds or only the quantity threshold for a substance that is not in a container system
Schedule 4	E2 Plan brought into effect	Within 12 months of meeting or exceeding both the substance quantity and container capacity thresholds or only the quantity threshold for a substance that is not in a container system
Schedule 5	Full-scale Exercise of E2 plan	Within 5 years after the day on which the E2 Plan is brought into effect, and every five years thereafter
Schedule 6	Change in circumstances	Within 60 days after the end of a 12 month period during which the threshold is no longer met
Schedule 7	Cessations of operations	Within 30 days before the day on which the operations are to cease, or as soon as feasible in the case of extraordinary circumstances
	Transfer of Ownership or charge or control	On or before the day on which the transfer takes place
Schedule 8	Written Report	As soon as possible in the case of <ol style="list-style-type: none"> 1. an environmental emergency involving the release of a hazardous substance that <ol style="list-style-type: none"> a. has or may have an immediate or long-term harmful effect on the environment, or b. constitutes or may constitute a danger, to the environment on which human life depends, or c. constitutes or may constitute a danger in Canada to human life or health 2. The reasonable likelihood of an occurrence of an environmental emergency

Online Notice Reporting System

- Under the E2 Regulations, 2019, a responsible person is required to report the information required under the various Notices to the Minister through a new on-line reporting system developed in the **Single Window Information Management (SWIM) System** of ECCC.
- Additional information on the Online Reporting System can be found at:
Canada.ca/Environmental-Emergency-Regulations
(www.canada.ca/environmental-emergency-regulations)

Environmental Emergency Reporting

If there's an environmental emergency involving a listed E2 substance

- **Section 201 (1) of CEPA**

1. Make a *verbal notification* through the Canadian Incident Notification System and provide follow-up *written report* to department's Enforcement Branch
2. Take all measures to:
 - *prevent* the environmental emergency
 - *repair, reduce or mitigate any negative effects* on the environment or human life or health...
3. Make a reasonable effort to *notify* any member of the public who may be adversely affected by the environmental emergency

- **E2 regulations**

1. Require to send *Written report* to Enforcement Branch

Conditions for reporting an environmental emergency:

- a) has or may have an immediate or long-term harmful effect on the environment;
- b) constitutes or may constitute a danger to the environment on which human life depends; or
- c) constitutes or may constitute a danger in Canada to human life or health.

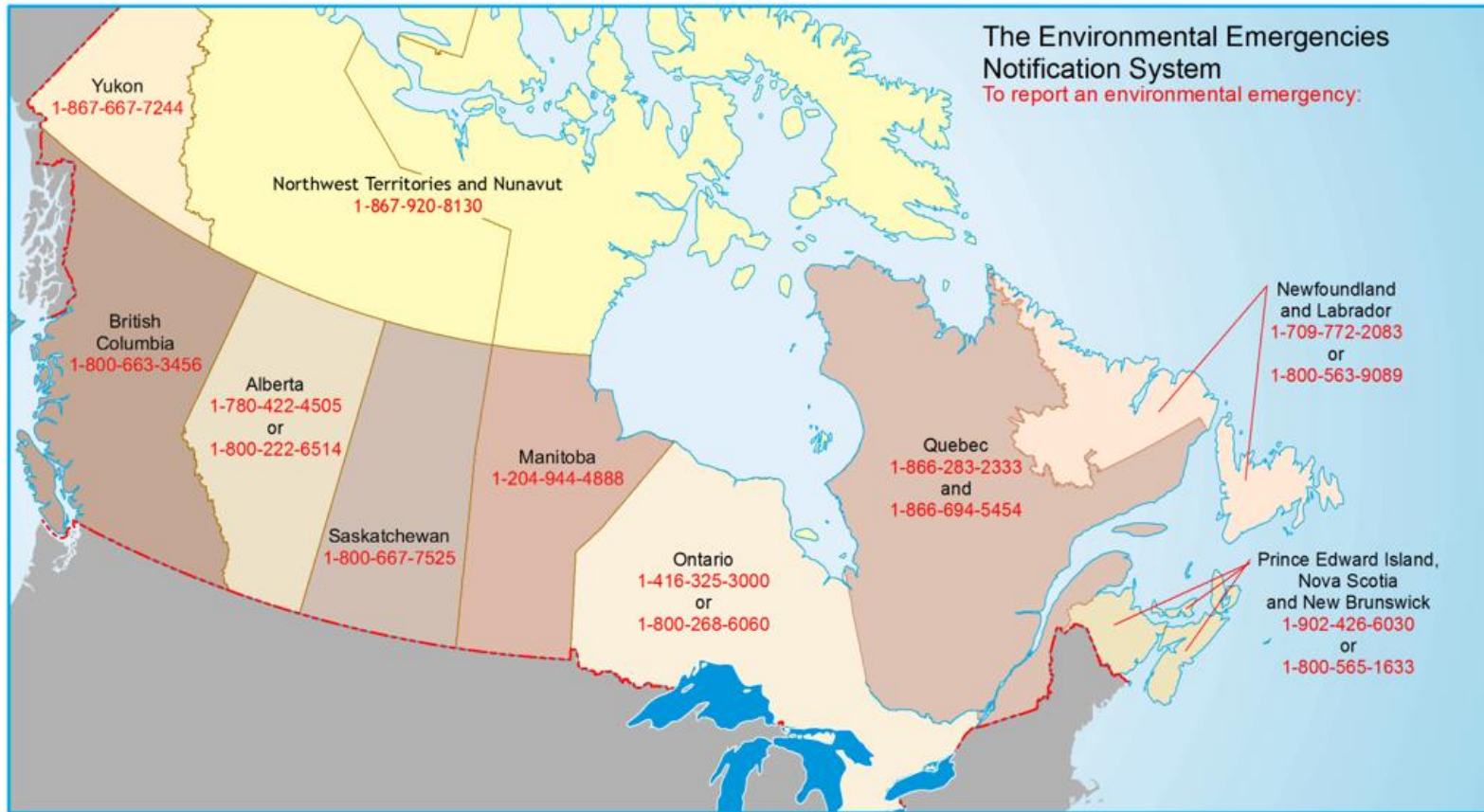
Canadian Incident Notification System



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More info?

- 2019 E2 Regulations and List of Substances:
<http://gazette.gc.ca/rp-pr/p2/2019/2019-03-06/html/sor-dors51-eng.html>
- Environmental Emergencies (E2) Program:
<https://www.canada.ca/en/environment-climate-change/services/environmental-emergencies-program/regulations.html>
- CEPA Registry:
<http://ec.gc.ca/lcpe-cepa/eng/Regulations/DetailReg.cfm?intReg=111>
- Environmental emergencies regional contacts:
<https://www.canada.ca/en/environment-climate-change/services/environmental-emergencies-program/regional-contacts.html>

Questions?

Gerard Chisholm

Environmental Emergency Program

Environment and Climate Change Canada

Dartmouth Office

902-426-6318

ec.ue-atl-e2.ec@canada.ca

gerard.chisholm@canada.ca

