



ENVIRONMENTAL REPORTING PROCEDURES

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Scope

Environmental reporting procedures are applicable to all UBC activities and operations. These procedures are specific to the Point Grey campus and may require modification for use at other University locations.

Purpose

To ensure that all spills of hazardous materials are reported to the appropriate authority as required by law.

Background

Many different statutes impose specific legal obligations to report spills to provincial and federal agencies. The primary responsibility of any person who has possession, charge, or control of a hazardous material is to do everything in his or her power to prevent a spill of that material. This includes establishing programs to prevent the escape of the material, such as identifying areas where there are potential risks of spills, adopting procedures and technologies to minimize or eliminate such risks, and ensuring anyone handling the materials is trained in the relevant procedures and technologies.

When a spill does occur, the responsible person must act quickly to stop, contain and minimize the effects of the spill. Courts impose stricter penalties for convictions arising from a spill if there was a delay in responding to or reporting of the spill. A spill is defined as an **external release** to air, water or land. A dangerous good released from its packaging in transit or on arrival is also considered a reportable spill under *Transportation of Dangerous Goods Act 1992 (as amended in 1994, 1997 & 1999)*.

In the event of a spill, more than one piece of legislation may apply and more than one agency may require a spill report to be completed. These reports are time sensitive.

Procedure

1. When the potential for a spill exists programs are to be established to prevent the escape of hazardous materials. This should include identifying areas where there are potential risks of spills, adopting procedures and technologies to minimize or eliminate such risks, and ensuring all personnel involved are trained in the procedures and technologies.
2. In the event of a spill or release of material, persons in the immediate area should act to ensure their personal safety. The responsible person must act quickly to stop, contain, minimize the effects of and clean up the affected area, where possible and safe - this may include initiating an Emergency Response (911).
3. Identify the material and the quantity spilled.
4. The responsible person must determine, using Table 1 below, if the spill is reportable and which agencies require notification.
5. The responsible person must notify all applicable agencies immediately and complete the UBC Spill Reporting Form (Appendix 2).
6. The responsible person is to keep the original Spill Reporting Form and fax a copy to the Department of Health, Safety & Environment (fax# 604-822-6650) as soon as reasonably possible. The Department of Health, Safety & Environment must also be notified by phone, (604) 822-2029, of the spill as soon as possible. A second copy of the form must be forwarded to the applicable Administrative Head of Unit.



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Figure 1: Spill Reporting Procedure

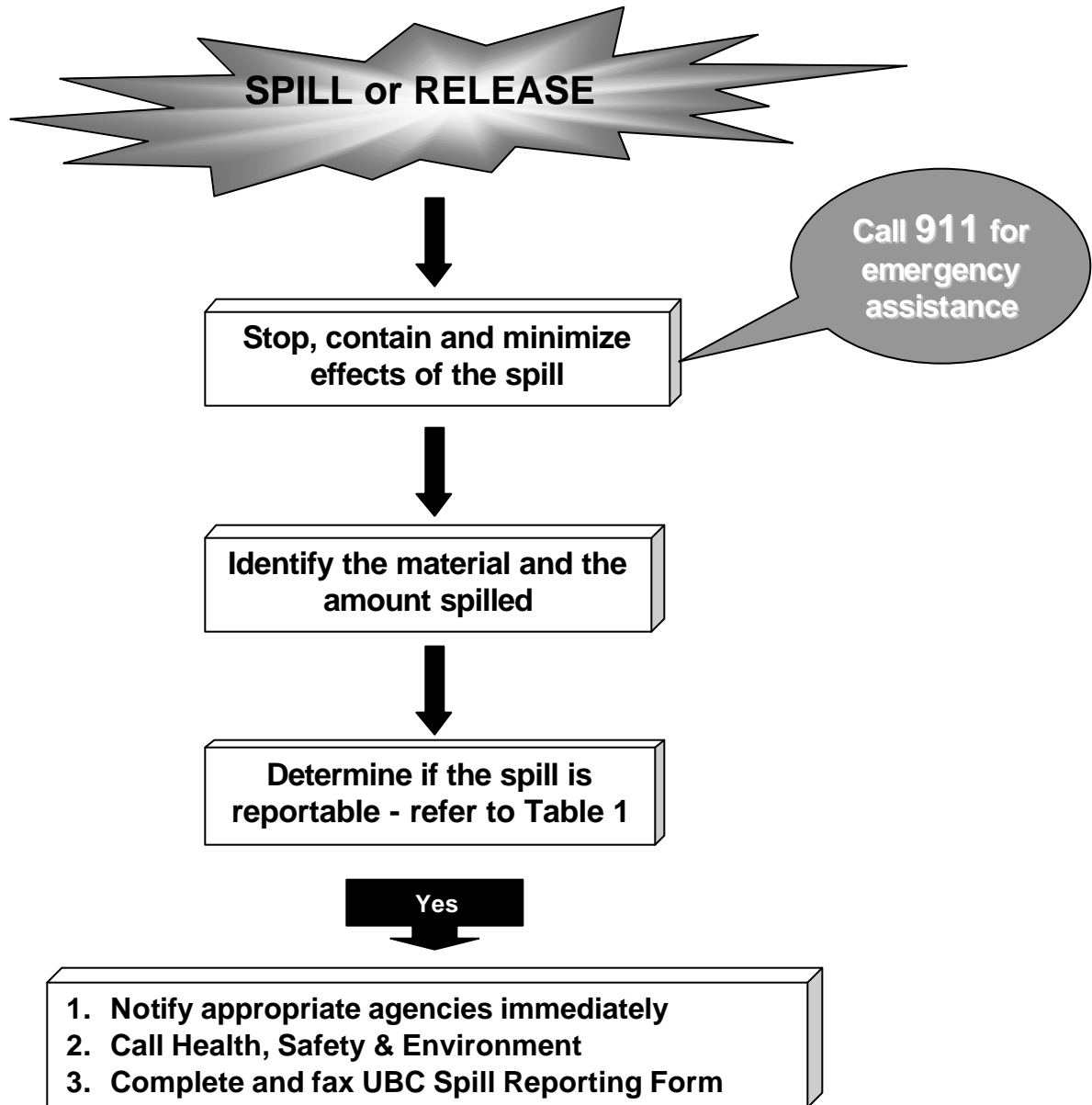


TABLE 1 – Determination of Materials and Agencies Requiring Notification

All Classes refer to the Transportation of Dangerous Goods classification, see Appendix 3

Use the following table to determine if a spill is reportable and which agency(ies) should be notified. 1) Find the substance under “Substance Spilled”, 2) Compare the actual amount spilled to the “Specified Amount”, if the actual is equal to or greater than the specified amount report the spill to the “Contact Agencies” listed in the final column.

CRITERIA/SUBSTANCE SPILLED	SPECIFIED AMOUNT	Required Contact Agencies
Waste containing a pest control product	Any	Pesticide Mgmt Program & PEP
Waste oil	100 litres	PEP
Explosives of Class 1	Any	PEP & Transport Canada
Flammable gases of Division 1 of Class 2	10 kg where spill results from equipment failure, error, deliberate action, or inaction	PEP
Non-flammable gases of Division 2 of Class 2	10 kg where spill results from equipment failure, error, deliberate action or inaction	PEP
Poisonous gases of Division 3 of Class 2	Any	PEP & Transport Canada
Flammable liquids of Class 3	100 litres	PEP
Flammable solids of Class 4	25 kg	PEP & Transport Canada
Products or substances that are oxidizing substances of Division 1 of Class 5	50 kg or 50 L	PEP & Transport Canada
Products or substances that are organic compounds that contain the bivalent “-0-0-“ structure of Division 2 of Class 5	1 kg or 1 L	PEP & Transport Canada
Products or substances that are poisons of Division 1 of Class 6	5 kg or 5 L	PEP & Transport Canada
Organisms that are infectious or that are reasonably believed to be infectious, and the toxins of these organisms (risk group II and above)	Any	PEP & Transport Canada
Radioactive materials of Class 7	All discharges of a radiation level exceeding 10Msv/h at the package surface and 200uSv/h at 1 m from the package surface	PEP & Transport Canada

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CRITERIA/SUBSTANCE SPILLED	SPECIFIED AMOUNT	Required Contact Agencies
Corrosive materials of Class 8	5 kg or 5 L	PEP & Transport Canada
Waste Asbestos	50 kg	PEP
Miscellaneous products or substances of Class 9	50 kg or 50 L	PEP & Transport Canada
A substance not covered by these items that can cause pollution	200 kg or 200 L	PEP
Natural Gas	10 kg, if there is a breakage in a pipeline or fitting operated at >100psi that results in a sudden release	PEP
One of the 45 materials on the List of Toxic substances (refer to Appendix 4)	Any	Environment Canada
A major release of a toxic or hazardous material	<ol style="list-style-type: none"> 1 The incident resulted in an injury that required immediate medical attention beyond the level of service provided by a first aid attendant or injuries to several workers which require first aid. 2 The incident resulted in a situation of continuing danger to workers, as when the release of a chemical cannot be readily or quickly cleaned up. 	Workers Compensation Board
A substance that is or may be a health hazard	Any	Medical Health Officer
Deleterious substance released into water frequented by fish	Any	PEP

Emergency Response	911	Health, Safety & Environment	Ph: (604) 822-2029 Fax: (604) 822-6650
Provincial Emergency Program (PEP)	(250) 387-5956 or 1-800-663-3456	Transport Canada	(604) 224-1322
Pesticide Management Program	(604) 582-5200	Medical Health Officer	(604) 736-2033
Environment Canada	(604) 666-6100	Workers Compensation Board	1-800-661-2112 (after hours) (604) 273-7711

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Appendix 1: DEFINITIONS

Environment – “means the air, land, water and all other external conditions or influences under which man, animals and plants live or are developed.”

BC Environmental Management Act, 2003

Dangerous Goods – “means a product, substance or organism included by its nature or by the regulations in any of the classes listed in the schedule to the Canada Dangerous Goods Act”

Canada Transportation of Dangerous Goods Regulations, 2003

Deleterious Substance -

1(a) “any substance that, if added to any water, would degrade or alter or form a part of a process of degradation or alteration of the quality of that water so that it is rendered or is likely to be rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water, or

(b) any water that contains a substance in such quantity or concentration, or that has been so treated, processed or changed, by heat or other means, from a natural state that it would, if added to any other water, degrade or alter or form part of a process of degradation or alteration of the quality of that water so that it is rendered or is likely to be rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water,

and without limiting the generality of the foregoing includes

(c) any substance or class of substances prescribed pursuant to paragraph 2(a),

(d) any water that contains any substance or class of substances in a quantity or concentration that is equal to or in excess of a quantity or concentration prescribed in respect of that substance or class of substances pursuant to paragraph 2(b), and

(e) any water that has been subjected to a treatment, process or change prescribed pursuant to paragraph 2(c).”

The Governor in Council may make regulations prescribing:

2(a) substances and classes of substances,

(b) quantities or concentrations of substances and classes of substances in water, and

(c) treatments, processes and changes of water

for the purpose of paragraphs 1(c) to (e) of the definition “deleterious substance” in subsection (1).

Canada Fisheries Act, s.34, 1985

Note that aside from toxic chemicals, deleterious substances have been found to include such things as sediment, which has been shown to impede a fish’s ability to catch prey and to affect its gills.

Hazardous Material – “means any prohibited product, restricted product, controlled product or special waste.”

Responsible Person – “any person who had possession, charge or control of a substance immediately before its spill.”

BC Environmental Management Act - Spill Reporting Regulation, 1993.

Spill – “means a release or discharge ... into the environment of a substance in an amount equal to or greater than the amount listed ...”

BC Environmental Management Act - Spill Reporting Regulation, 1993

Appendix 2:

UBC SPILL REPORTING FORM
REPORTABLE SPILLS or RELEASES ONLY

**Fax to Health, Safety & Environment, (604) 822-6650
(phone number (604) 822-2029)
Copy to be forwarded to Administrative Head of Unit**

EMERGENCY RESPONSE INITIATED

YES

NO

Name _____
Dept. _____
Phone number _____
Address _____

Material spilled _____

Quantity _____
Location _____

Date & time of spill _____

Description of spill, including cause and actions taken _____

Agencies attending scene (e.g. Fire Dept. etc)

Agencies notified of spill or release:
(e.g., PEP at 1-800-663-3456)

_____ Time _____
_____ Time _____
_____ Time _____

Please include any additional information on a separate sheet.



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Appendix 3: Classification of Dangerous Goods

Refer to the Canada *Transportation of Dangerous Goods Acts, 1992, schedule II* for a complete list of substances.

Note: The class number is the first number, the second number is the division number, e.g., 5.2 means class 5, division 2).

Class 1	Explosives
1.1	A substance or article with a mass explosion hazard
1.2	A substance or article with a fragment projection hazard, but not a mass explosion hazard
1.3	A substance or article that has a fire hazard along with either a minor blast hazard or a minor projection hazard or both, but not a mass explosion hazard
1.4	A substance or article that presents no significant hazard – explosion effects are largely confined to the package and no projection or fragments of appreciable size or range are to be expected.
1.5	A very insensitive substance that nevertheless has a mass explosion hazard like those substances in 1.1.
Class 2	Gases
2.1	A flammable gas
2.2	Other compressed gases
2.3	A poisonous gas
Class 3	Flammable and combustible liquids A liquid with a closed-cup flash point between -18oC and 61oC
Class 4	Flammable solids, substances liable to spontaneous combustion, and substances that on contact with water emit flammable gases
4.1	A solid that under normal conditions of transport is readily ignitable and burns vigorously and persistently or that causes or contributes to fire through friction or from heat retained from manufacturing or processing
4.2	A substance liable to spontaneous combustion when in contact with air or liable to spontaneous heating to the point where it ignites when in contact with air
4.3	A substance that on contact with water is liable to become spontaneously flammable or emit flammable gas(es)
Class 5	Oxidizing substances and organic peroxides
5.1	A substance that causes or contributes to the combustion of other material by yielding oxygen or other oxidizing substances whether or not the substance itself is combustible
5.2	An organic compound that contains a strong oxidizing agent in the form of the bivalent “-O-O-“ structure and, therefore, may be liable to explosive decomposition or sensitive to heat, shock, or friction
Class 6	Poisonous (toxic) substances and infectious substances
6.1	A solid or liquid that is poisonous through inhalation of its vapours, by skin contact, or by ingestion
6.2	Organisms that are infectious or that are reasonably believed to be infectious to humans and animals
Class 7	Radioactive materials
Class 8	Corrosive substances
Class 9	Miscellaneous products, substances, or organisms dangerous to life, health, property, or the environment

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Reviewed by: **Donna Ashick**

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Appendix 4: CANADIAN ENVIRONMENTAL PROTECTION ACT Schedule 1 – List of Toxic Substances

1	Chlorobiphenyls that have the molecular formula $C_{12}H_{10-n}Cl_n$ in which "n" is greater than 2
2	Dodecachlorophentacyclo (5.3.0.0 ^{2,6} .0 ^{3,9} .0 ^{4,8}) decane
3	Polybrominated Biphenyls that have the molecular formula $C_{12}H_{10-n}Br_n$ in which "n" is greater than 2
4	Chlorofluorocarbon: totally halogenated chlorofluorocarbons that have the molecular formula $C_nCl_xF_{(2n+2-x)}$
5	Polychlorinated Terphenyls that have a molecular formula $C_{18}H_{14-n}Cl_n$ in which "n" is greater than 2
6	Asbestos
7	Lead
8	Mercury
9	Vinyl Chloride
10	Bromochlorodifluoromethane that has the molecular formula CF_2BrCl
11	Bromotrifluoromethane that has the molecular formula CF_3Br
12	Dibromotetrafluoroethane that has the molecular formula $C_2F_4Br_2$
13	Fuel containing toxic substances that are dangerous goods within the meaning of section 2 of the Transportation of Dangerous Goods Act and that (a) are neither normal components of the fuel nor additives designed to improve the characteristics or the performance of the fuel; or (b) are normal components of the fuel or additives designed to improve the characteristics or performance of the fuel, but are present in quantities or concentrations greater than those generally accepted by industry standards.
14	Dibenzo-para-dioxin that has the molecular formula $C_{12}H_8O_2$
15	Dibenzofuran that has the molecular formula $C_{12}H_8O$
16	Polychlorinated dibenzo-para-dioxins that have the molecular formula $C_{12}H_{(8-n)}O_2Cl_n$ in which "n" is greater than 2
17	Polychlorinated dibenzofurans that have the molecular formula $C_{12}H_{(8-n)}OCl_n$ in which "n" is greater than 2
18	Tetrachloromethane (carbon tetrachloride CCl_4)
19	1,1,1-trichloroethane (methyl chloroform, CCl_3-CH_3)
20	Bromofluorocarbons other than those set out in items 10 to 12
21	Hydrobromofluorocarbons that have the molecular formula $C_nH_xF_yBr_{(2n+2-x-y)}$ in which $0 < n \leq 3$
22	Methyl Bromide
23	Bis(chloromethyl) ether that has the molecular formula $C_2H_4C_2O$
24	Chloromethyl methyl ether that has the molecular formula C_2H_5ClO
25	Hydrochlorofluorocarbon (HCFC)



Appendix 4: CANADIAN ENVIRONMENTAL PROTECTION ACT Schedule 1 – List of Toxic Substances

26	Benzene – molecular formula C ₆ H ₆
27	Cyclopropylmethanone (4-cyclophenyl) O-[(4-nitrophenyl)methyl]oxime (C ₁₇ H ₁₅ ClN ₂ O ₃)
28	1,2-Dichloroethane
29	3,3'-Dichlorobenzidine
30	Benzidine
31	Bis(2-ethylhexyl)phthalate
32	Chlorinated wastewater effluent
33	Creosote-impregnated water materials from creosote-contaminated sites
34	Dichloromethane
35	Effluent from pulp mills using bleaching
36	Hexachlorobenzene
37	Hexavalent chromium compounds
38	Inorganic arsenic compounds
39	Inorganic cadmium compounds
40	Inorganic fluorides
41	Oxidic, sulphidic and soluble inorganic nickel compounds
42	Polycyclic aromatic hydrocarbons
43	Refractory ceramic fibre
44	Tetrachloroethylene
45	Trichloroethylene

Revisions R01:

- ◆ 27 Environmental Canada – Canadian Environmental Protection Act – Schedule 1 – List of Toxic Substances added.
- ◆ Updated Table 1 to include Corrosive materials of Class 8
- ◆ Grammatical change
- ◆ No change in procedure

Revisions R02:

- ◆ Changed name from “Spill” to “Environmental” Reporting Procedures
- ◆ Updated Table 1 to remove Division 4 of Class 2 and Divisions 1, 2 & 3 of Class 9 (as amended in latest revisions to the Canada Transportation of Dangerous Goods Regulations in 2003)
- ◆ Corrections and updates to Appendix 1 DEFINITIONS (BC Waste Management Act and BC Environment Management Act combined and updated to BC Environmental Management Act in 2003)
- ◆ Modified Appendix 2 to include PEP Phone number
- ◆ Updated Table 3 to remove Division 4 of Class 2, Divisions 1, 2 & 3 of Class 9
- ◆ Updated overall format