Human Health and the Canadian Environmental Protection Act 1999 (CEPA 1999)

Introduction

Some 23,000 different substances are used in industrial processes and consumer goods in Canada. Many of these chemicals improve our standard of living. However, in some cases, they may also threaten our health and our environment.

Renewed Environmental Protection

CEPA 1999 deals with pollution prevention and the protection of the environment and human health in order to contribute to sustainable development; it is the outcome of a five-year review, including public consultations across the country.

Protection from Pollution and Toxic Substances

The Government of Canada is committed to reducing the levels of "**toxic**" contaminants in the environment through CEPA 1999, a federal law jointly administered by Environment Canada and Health Canada. CEPA provides a framework for protecting Canadians from pollution caused by "toxic" substances. It ensures that the potential risks posed by chemical substances and biotechnology products will be properly assessed. It also provides for strict controls of substances judged to be "toxic" and specifies time frames for developing and implementing plans for controlling them. CEPA 1999 acts as a safety net and is meant to complement other laws such as the Food and Drugs Act and the Pest Control Products Act by providing a means to ensure that substances not specifically covered under other legislation meet Canadian standards in the areas of human health and safety and environmental protection.

Under CEPA, substances are defined as "toxic" if they enter or may enter the environment in amounts or concentrations that:

- have an immediate or long-term effect on the environment or its biological diversity;
- endanger the environment upon which life depends (for example, chlorofluorocarbons (CFCs) damage the stratospheric ozone layer, increasing exposure to ultraviolet rays, thereby increasing the risk of skin cancer); or
- endanger human life or health (for example, lead can hinder development of the human nervous system).

Health Canada has the responsibility for assessing and managing risks to human health posed by environmental substances. Under CEPA 1999, the Minister of Health must conduct research on the effects of environmental substances on human health, and specifically on hormone disrupting chemicals. In assessing the risks to health, that is in determining whether a substance is "toxic" under CEPA 1999, both the inherent toxic properties of the substance and the amount of the substance to which people are exposed must be taken into account. Assessment of exposure can be estimated by the amounts of a substance present in food, drinking water, air (indoor/outdoor), soil, and consumer products.

The Three P's Approach (Proactive, Preventative, Precautionary)

CEPA 1999 focuses on a proactive approach to prevent harm to the environment and human life and health. It does this in different ways - for example, there is authority to require preparation and implementation of pollution preventative plans for toxic substances, and for Canadian sources of international air and international water pollution. Particularly in the case of toxic substances, CEPA 1999 stipulates that preventive approaches are to be the priority. In addition, the Act requires implementation of the precautionary principle which states "where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation". CEPA 1999 creates the means to identify the most dangerous substances. The characteristics of those substances are that:

- they are toxic within the meaning of the Act, as outlined above,
- they enter the environment due to discharge of industrial effluents and wastes or some other human activity,
- they remain in the environment for a long time before breaking down or decomposing, and
- they accumulate in the tissue of plants, animals and/or humans.

For any substance that meets all four of those criteria, virtual elimination of its release into the environment would be required. Other substances that may be toxic but that do not meet the four characteristics described above may be

controlled through regulations that govern matters such as their manufacture, import, use, release into the environment, and/or disposal.

The public health and environmental protection aim of the three Ps' approach is to reduce and prevent, to the extent possible, exposure to toxic substances and pollutants.

New Substances

The Domestic Substances List (DSL) identifies the substances already in use in Canada. Any substance not included on the DSL is considered **new**. The federal government incorporates the preventative approach to new substances by requiring industry to provide data on new substances **before** they are manufactured or imported. CEPA 1999 can also require industry to provide information on substances when their exposure may change significantly based on factors such as use or volume of use.

Health Canada and Environment Canada evaluate new substances for risks to human health or the environment. The Departments then decide whether or not a new substance may be manufactured in or imported into Canada, and whether controls may be warranted or whether additional testing is required.

Living Biotechnology Products

Increasing use of organisms is quickly expanding the range and number of biotechnology applications in agriculture, environment, industry, mining, chemical production, energy production, and waste disposal. Some applications can involve large-scale production of micro-organisms (both naturally occurring and genetically modified), or the introduction of micro-organisms into the environment. Other applications could involve the use of organisms other than micro-organisms.

The Government of Canada has an overall regulatory policy whereby products of biotechnology are controlled under appropriate federal legislation. Under CEPA, Health Canada and Environment Canada evaluate new biotechnology products for risks to human health or the environment. The Departments then decide whether or not new biotechnology products may be manufactured in or imported into Canada, and whether controls may be warranted or additional testing required.

In order to address the differences between living organisms and the other substances like chemicals, CEPA 1999 has a separate section to specifically assess new biotechnology products which are living organisms. Assessment occurs **before** manufacture or importation. This requires manufacturers and importers to identify the organism and describe its characteristics as well as the exposure of the environment or humans. As well, specific tests will be necessary to ensure that the organism does not affect human health. As with new chemical substances, Health Canada, together with Environment Canada, carefully assesses the information, and determines what controls or further testing are necessary.

Existing Substances

There are 23,000 substances in Canada that need to be examined for their impact on the environment and human health. Under CEPA 1999, all the 23,000 substances on the DSL must be categorized by September 13, 2006, based on whether:

- they are persistent or bioaccumulative, and inherently toxic to human beings and non-human organisms (as established by laboratory or other studies); or
- they may present the greatest potential for exposure to individuals in Canada.

Based on this categorization, substances that meet specified criteria will undergo a further assessment to determine if they are "toxic" as defined by CEPA 1999.

The CEPA Priority Substances Assessment Program continues to be the method used to focus on those chemicals and other substances deemed to require an in-depth assessment of risks to the environment and human health. These are designated on the Priority Substances List (PSL). The first PSL (PSL1) was established in 1989. Out of the 44 chemicals on the list, 25 were deemed to be "toxic" under the original CEPA. The second PSL (PSL2), a list of 25 more substances, was published in 1995 and the substances have been assessed.

The assessment reports, which are made available to the public, describe the characteristics of the substance, how it gets into the environment, its effects on human health and the environment, and the risks to human health associated with environmental exposure. If a substance is "toxic", controls may be placed on its use or its release to the

environment. These controls can take the form of guidelines, codes of practice, or regulations. CEPA 1999 can control "toxic" substances over their entire life cycles, from their development to their ultimate disposal.

Enforcement Under CEPA 1999

Environment Canada carries out regular inspections and investigations to ensure that regulations governing "toxic" substances are followed. The maximum penalties can include fines of up to $1 million a day, imprisonment for up to three years or both. Violators may also have to pay for clean-up cost or forfeit any profits made from polluting practices. Corporate officials can be prosecuted if they authorize or participate in any violation of CEPA regulations.

Public Participation

The effective control of toxic substances cannot rely solely on federal regulation. It also requires a concerted effort by all Canadians, including governments, industries and individuals. Canadians have the right to sue if the federal government fails to enforce CEPA. Whistleblower protection safeguards an individual's identity when reporting violations.

The public must be kept informed in order to adequately play its part in environmental and health protection. The government has ensured, in the new CEPA, that the public has increased access to environmental information related to matters under the Act. Now available to the public is a new Internet-based Environment Registry of CEPA information. The federal government has also established a national inventory of pollutant releases to allow Canadians to access information about pollution in their communities.

CEPA 1999 builds on a record of partnership. For the first time, it includes aboriginal peoples as partners in environmental protection. Not only will traditional knowledge be taken into account, but aboriginal people under self-government agreements will also have the same rights as provincial and territorial governments under the Act.

An Ongoing Responsibility

The government's commitment to protect human health and the environment does not end with the publication of a CEPA assessment report, or the assessment and initial control of a new substance. When significant new information on a toxic substance becomes available, that substance may be re-assessed.

Every five years, the Act must be reviewed by one or both of the Houses of Parliament. This ensures that the effectiveness of the legislation is monitored and any needed changes are incorporated so that Canadians can continue to enjoy the highest standards of environmental and health protection.

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Additional information on the Canadian Environmental Protection Act, 1999 is available on Environment Canada's Green Lane on the Internet at: www.ec.gc.ca/CEPARegistry

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