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Notice Of Intent On A Federal Agenda For Reduction Of Emissions Of Volatile Organic Compounds From Consumer And Commercial Products

What are VOCs?

Volatile Organic Compounds (VOCs) are compounds containing at least one carbon atom, excluding carbon monoxide and carbon dioxide, which evaporate readily to the atmosphere. VOCs include a wide range of individual substances from many substance classes such as hydrocarbons, halocarbons and oxygenates.

Major VOC emission sources are the organic solvents used in many consumer and commercial products such as underarm anti-perspirants, exterior paints used on homes, and commercial printing inks; transportation sector activities such as the exhaust emissions from cars and trucks; various industrial processes such as chemical manufacturing; and residential/commercial/fuel/wood combustion. Not all VOCs originate from man made sources, however, in more populated and industrial areas man made emissions predominate.

How do VOCs affect the environment?

When VOCs are released to the atmosphere, they can participate in atmospheric photochemical reactions to form ground-level ozone and particulate matter. These two air pollutants are the main ingredients of smog and cause serious health effects for Canadians, including thousands of premature deaths, hospital admissions and emergency room visits every year.

Almost all ground-level ozone and in the order of two-thirds of particulate matter are formed in the atmosphere through the reactions of precursor substances, with VOCs being one of the most significant. Consequently, reduction of atmospheric levels of particulate matter and ozone must be accomplished through reductions of precursors, such as VOCs.

Are VOCs harmful to human health?

Health impacts can occur when VOCs are released to the atmosphere and participate in atmospheric photochemical reactions leading to the formation of ground level ozone and particulate matter. These two air pollutants are the main ingredients of smog and cause serious health effects for Canadians, including thousands of premature deaths, hospital admissions and emergency room visits every year. VOCs are one of the primary precursor substances leading to the atmospheric formation of both of ground level ozone and particulate matter.

The scope of substances that may be characterized as VOCs is extremely broad. Actions under the Federal Agenda are targeted at the sub-set of these substances used as solvent constituents in consumer and commercial products. The Agenda actions are not in response to a determination that these VOC solvent constituents pose any direct risk to human health, but rather the fact that upon evaporation to the atmosphere, they can undergo photochemical reaction resulting in the formation of ground-level ozone and particulate matter.

Why take action on VOCs?

Actions to reduce VOC emissions are being taken under this Agenda to deliver on the government's commitment to address the serious health risks posed to Canadians by air pollution. VOCs are one of the primary substances leading to the atmospheric formation of both ground-level ozone and particulate matter. These two pollutants are the main ingredients of smog and cause serious health effects for Canadians, including thousands of premature deaths, hospital admissions and emergency room visits every year. Taking action on VOCs, and other air pollutants that contribute to smog formation, will have considerable health benefits for Canadians.

What products contain VOCs?

Many consumer and commercial products include VOC solvent constituents to facilitate their effective use. VOC solvents are used in a variety of consumer and commercial products such as underarm anti-perspirants, exterior paints used on homes, and commercial printing inks. VOC solvent use is the second largest source of man made VOC emissions to the atmosphere in most areas of Canada.

What are governments doing about VOCs?

The Government of Canada and the provinces and territories, except Quebec, have adopted Canada-wide Standards for particulate matter and ozone. Quebec has indicated that it intends to act consistently with other provinces and territories within its jurisdiction. This commitment requires significant reductions of both air pollutants and their precursors, including VOCs. All jurisdictions are developing action plans that will indicate actions they intend to take to achieve these Canada-wide standard targets by 2010. The Federal Agenda on Reducing VOCs from Consumer and Commercial Products constitutes one element of the federal government's action plan in this area.

VOC reductions in the transportation sector, the largest source of VOC emissions in Canada, are being addressed by the Federal Agenda on Cleaner Vehicles, Engines and Fuels .

Guidelines for VOCs in Consumer Products developed under CEPA 1999 were published in November 2002. Regulatory initiatives under the Agenda for this suite of products will build on these voluntary guidelines.

In August 2003, a regulation on solvent degreasing was developed under CEPA 1999 which addresses two common solvents, one classed as a VOC.

Environment Canada's Environmental Choice Program encourages the supply of products and services that are more environmentally responsible and promotes the use of such products. The Program currently sets VOC content limits for several product categories receiving its logo: consumer, industrial and/or institutional cleaning products, biologically based cleaning and degreasing compounds, industrial hand cleaners, paints, surface coatings, printing inks, adhesives, and personal care products.

Codes, guidelines and standards have been developed jointly by the federal, provincial and territorial governments, working under the Canadian Council of Ministers of the Environment, to cover VOC emission sources, including solvent releases. Some of these instruments for the solvent use sector contain both VOC content limits for products, as well as equipment, facility, and operational requirements.

Measures developed or under development by provinces and territories, include operating permits for solvent use sub-sectors under provincial/territorial jurisdiction; ozone episode alert or advisory programs that may influence short-term personal use of solvent-containing products, and specific measures applicable to solvent use sub-sectors (e.g. dry cleaning).

Some municipalities across Canada have been active in developing measures to help reduce VOC emissions from the solvent use sector. The Greater Vancouver Regional District and the Montreal Metro Community have a number of VOC emission management measures.

What is a notice of intent?

A Notice of Intent is the mechanism being used by the government to formally advise Canadians through publication in Canada Gazette Part 1 of the actions that will constitute the Federal Agenda for Reduction of Emissions of Volatile Organic Compounds from Consumer and Commercial Products. As a number of these actions will require development of control instruments, including regulations, under the Canadian Environmental Protection Act 1999 announcement of the Agenda has been made in Canada Gazette Part 1.

What will the proposed regulations do?

The regulations proposed in the Federal Agenda will establish content limits for a variety of product categories which are major sources of VOC emissions. These product standards will reduce the quantities of VOC being released to the atmosphere which in turn will lead to reductions in ground-level ozone and particulate matter, the key constituents of smog.

Why is Canada paying so much attention to the U.S. approach to dealing with VOCs in products?

There are several reasons why alignment of control actions on VOC emissions from products with those in the United States has been an important strategic consideration in developing the Agenda.

Actions in the United States at the federal level, augmented with initiatives undertaken by the States, provide a comprehensive control regime for VOC solvent emissions which has resulted in considerable reductions. There are

obvious advantages in giving careful consideration to approaches that have proved successful in the United States.

The fact that many products which are potential candidates for control action in Canada are subject to trans-border trade adds additional support to adoption of similar strategic approaches. Canadian industry will benefit from the establishment of product standards that recognize the existence of a common North American market for many of these products and the need for compatible regulatory requirements.

As well, Canada and the United States are working cooperatively on trans-boundary air pollution problems under the Canada-U.S. Air Quality Agreement. There are advantages to utilizing consistent strategic approaches where practical and feasible.

Are there consumer and commercial products out there right now with VOCs that could be harmful to me?

Actions to be taken under the Agenda are not in response to a determination that the VOC solvent constituents of the products pose a direct risk to human health. The reason for the Agenda actions is the need to improve air quality for Canadians by reducing atmospheric levels of ground-level ozone and particulate matter, the major ingredients of smog. VOCs are a major precursor substance in the atmospheric formation of both of these pollutants.

How does industry feel about these regulations?

A comprehensive stakeholder consultation process on the Agenda was begun in October 2002 and industry was an active participant. Numerous opportunities were provided for input.

Industry understood the need for action to address air pollution. Their preference was an all voluntary approach which they felt would achieve the necessary VOC reductions while providing them with greater flexibility. Industry was always a constructive player and indicated a general willingness to work cooperatively with the government in developing the control instruments that would be identified in the Agenda, including regulations. In developing the specifics of these regulations, extensive stakeholder consultations will ensure ample opportunity for input. The regulatory approach used for products will establish a "level playing field" for all domestic manufacturers, formulators and importers by establishing mandatory requirements for all players.