

# Canada Gazette



# Gazette du Canada

## Part I

## Partie I

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**DEPARTMENT OF THE ENVIRONMENT****CANADIAN ENVIRONMENTAL PROTECTION ACT, 1999***Federal Government Response to Comments Received on the Notice of Intent to Recommend that Precursors to Particulate Matter Be Added to the List of Toxic Substances Under the Canadian Environmental Protection Act, 1999***Introduction**

On July 15, 2000, the ministers of the Environment and of Health published their intent to recommend that the precursors to particulate matter less than or equal to 10 microns (PM<sub>10</sub>) (sulphur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>) [nitric oxide (NO) and nitrogen dioxide (NO<sub>2</sub>)], ammonia (NH<sub>3</sub>), and volatile organic compounds (VOCs)) be added to the List of Toxic Substances in Schedule 1 of the *Canadian Environmental Protection Act, (1999)* [CEPA 1999]. The Notice of Intent was published in the *Canada Gazette, Part I*, on July 15, 2000, for a 60-day comment period. This report summarizes the comments received and the federal response.

The Notice of Intent on precursors to PM<sub>10</sub> is associated with the May 9, 2001 final order in the *Canada Gazette* adding PM<sub>10</sub> to Schedule 1 of the List of Toxic Substances under section 64 of CEPA 1999.

The Priority Substances List Assessment Report for PM<sub>10</sub> was published on May 27, 2000. The report specifies that PM<sub>10</sub> can be released directly into the atmosphere or formed secondarily in the atmosphere from precursors as a result of physical or chemical transformations. The report further identifies the principal precursor gases to PM<sub>2.5</sub> to be sulphur dioxide, nitrogen oxides, ammonia, and volatile organic compounds and recommends that stakeholders be consulted on the need to add precursors to PM<sub>10</sub> to the List of Toxic Substances in Schedule 1 and on the form of the Schedule 1 listing. The Notice of Intent initiated such consultations. Without the listing of the precursors by name on Schedule 1, the ministers would not have the legislative mechanism in place to control the sources contributing to PM<sub>10</sub>.

**Response to Comments**

A total of 42 submissions were received. Thirty-five submissions were received from industry representatives, one from another federal department, three from provinces, one from a public health authority and two from environmental groups. Four submissions supported the intent to add the precursors to PM<sub>10</sub> to Schedule 1, while the others expressed various concerns with the process and uncertainties in the science. These submissions are mentioned in the *Order Adding Toxic Substances to Schedule 1 to the Canadian Environmental Protection Act, 1999* which appears in the proposed Regulations section on page 2320.

A summary of the most frequently raised comments and the responses of the federal government are outlined in the table below.

No.	COMMENT	RESPONSE
<b>1</b>	<b>PROCESS</b>	
1A	The ministers did not conduct a full science assessment under CEPA 1999 (e.g., a Priority Substances List (PSL) assessment, screening of the Domestic Substances List (DSL), or review of another jurisdiction) and did not follow the legal requirements of CEPA, sections 77, 90, and 91. Therefore, the process is not legal under CEPA. Declaring the precursors to PM <sub>10</sub> toxic on such a fast-tracked approach based on legal interpretation, rather than a full scientific assessment, sets a dangerous precedent and undermines the scientific basis of CEPA 1999.	<p>Under subsection 90(1) of CEPA 1999, "the Governor in Council may, if satisfied that a substance is toxic, on the recommendation of the ministers, make an order adding the substance to the List of Toxic Substances in Schedule 1." In developing this recommendation, the ministers may use a number of approaches to be satisfied that a substance is "toxic or capable of becoming toxic." These include, in addition to the processes prescribed for substances on the DSL and PSL, the use of other types of assessments to satisfy the Governor in Council that a substance is CEPA toxic.</p> <p>The ministers' recommendation is based on sound science conducted over the past decade. The PSL assessment of PM<sub>10</sub> indicates that the precursors can transform in the environment into PM<sub>10</sub>, which is toxic. The PM SAD went through a scientific peer-review and a consultation process with federal, provincial and territorial representatives. These documents are considered to be scientifically sound assessments of the effects of PM<sub>10</sub> on human health and the environment, and combined with the CEPA definitions of "toxic" and of "substance" in section 64 and subsection 3(1) respectively, provides the ministers with the basis for proceeding with a recommendation under subsection 90(1).</p> <p>In the case of precursors to PM<sub>10</sub>, the ministers are confident that a formal PSL science assessment is not required and that the existing science supports the conclusion that the precursors can transform in the environment into PM<sub>10</sub>, which is toxic. The precursors to PM<sub>10</sub> satisfy the conditions of section 64, which defines a substance as "toxic" if, among other possibilities, it may enter the environment under conditions that may constitute a danger to human health.</p> <p>The CEPA requirement to develop an instrument within two years (section 91) does not apply to PM<sub>10</sub> precursors since they were not subject to CEPA, paragraph 77(6)(b). Nonetheless, early actions will be needed if governments are to collectively achieve the CWS target by 2010.</p> <p>In addition, there already exists a precedent for adding precursors to a toxic substance to Schedule 1 of CEPA 1999. Non-chlorinated dibenzodioxin and dibenzofuran, while not assessed for the risks posed by their direct exposure, were added to Schedule 1 because they can lead to the formation of polychlorinated dioxins and polychlorinated furans, which are toxic under CEPA 1999.</p>

1B	The justification for the proposal is unclear. The proposal is based solely on inference, with no document on which the public could base its comments. A report is needed that, for each substance, documents how they meet the definition of CEPA, section 64.	The Notice of Intent contained the required justification for the proposal, namely that: <ul style="list-style-type: none"> <li>• PM<sub>10</sub> is toxic</li> <li>• that the PSL Assessment Report for PM<sub>10</sub> specifies that this substance can be released directly into the atmosphere or formed secondarily in the atmosphere from precursors as a result of physical or chemical transformations</li> <li>• that the Report identifies the principal precursors to this substance to be sulphur dioxide, nitrogen oxides, ammonia and volatile organic compounds</li> </ul>
1C	Using the same logic, precursors of precursors could be declared toxic (e.g., sulphur, oxygen, and carbon).	Technically this may be true for some substances if they are capable of "being transformed" or "causing such transformation." However, in practical terms, as noted in the PSL Assessment Report for PM <sub>10</sub> and supported by the recent report "Precursor Contributions to Ambient Fine Particulate Matter in Canada," the four substances in the Notice are considered to be the primary precursors of PM <sub>10</sub> .
1D	The Government should develop guidelines under CEPA, section 69, which clearly articulate the interpretation and application of this type of approach.	This suggestion will be taken under consideration.
1E	The precursors are not persistent, bioaccumulative and are not on Track 1 under the CEPA process.	The List of Toxic Substances is not limited to Track 1 substances (substances that are persistent, bioaccumulative, toxic, and predominantly anthropogenic) targeted for virtual elimination under the Act or under the federal government's Toxic Substance Management Policy.
<b>2</b>	<b>OVERLAP AND DUPLICATION</b>	
2A	It will cause overlap and duplication with and may hinder the large number of management programs already underway to reduce emissions of PM <sub>10</sub> and its precursors. The proposal undermines the Harmonization and Canada-wide Standards (CWS) process under the Canadian Council of Ministers of the Environment (CCME), which provides the framework to develop a cohesive national approach to the division of jurisdictional responsibility for the management of clean air issues.	The addition of PM <sub>10</sub> precursors to Schedule 1 of CEPA 1999 does not, in itself, control the substances in any way; therefore, it does not cause overlap and duplication with existing programs. It establishes the additional legal authority for the federal government to take the actions under CEPA 1999 that it has already committed to work towards under these programs.  The federal government is committed to the CWS for PM and Ozone and has published its proposed actions to help achieve these standards in the Interim Plan 2001 on Particulate Matter (PM) and Ozone. Together with the provinces and territories, the federal government will continue the current process of mapping out emission reduction strategies for key industrial sectors. Action is expected to be taken by the jurisdiction best situated. While the federal government may be best situated to act in some cases, many of the actions required are expected to be implemented by provinces and territories.
<b>3</b>	<b>NECESSITY</b>	
3A	The legal necessity for listing the precursors on the List of Toxic Substances is not clear and should be communicated.	To reduce ambient levels of PM <sub>10</sub> , it is necessary to reduce emissions of precursors in addition to direct emissions of PM since, on average, one-half to two-thirds of PM <sub>2.5</sub> mass can be attributed to formation from precursor gases. For the federal government, CEPA 1999 is the most important tool available for reducing ambient levels of PM. To control the precursors, the Government needs access to the full range of "CEPA tools," including regulations and pollution prevention plans, which are only available when the precursors are listed by name on Schedule 1.
3B	Declaring the precursors to PM <sub>10</sub> toxic is unnecessary since there are numerous federal, provincial and industrial programs underway that address PM <sub>10</sub> and that can be amended or extended to cover new requirements.	Although there are effective frameworks and initiatives in place, experience has shown that even the combined efforts of all levels of government and industry have not been adequate to manage smog. In fact, many comments that were received recognized the need for further actions to reduce ambient levels of PM <sub>10</sub> and supported the federal government's Clean Air Agenda.  Canada needs a concerted, cooperative effort by all jurisdictions to achieve the PM and Ozone CWS. The federal, provincial, and territorial governments have committed to further actions under the CWS and it is now incumbent upon all jurisdictions to deliver on these commitments. The federal government has committed to do its part to help achieve the CWS and has outlined its initial actions in its Interim Plan 2001 on PM and Ozone. It is imperative that the federal government has access to the full range of "CEPA tools" to be able to deliver these commitments.
3C	Many industries are already working to reduce emissions through various programs, including voluntary initiatives.	The Government recognizes and commends the significant achievements that industry has made towards reducing emissions of PM <sub>10</sub> , ozone, and their precursors and will continue to work with industry to achieve additional reductions, where necessary; however, more needs to be done to protect the health of Canadians.
3D	Canada is out of step with other western jurisdictions who have not listed these precursors as toxic.	Every country has a different framework of legislative tools and may use a process other than a declaration of toxicity to control the precursors to PM. Regardless of the legislative tool or process, many western countries, e.g. most in the European Union, the United States and the United Kingdom, are required to implement more stringent measures to reduce PM precursors, such as SO <sub>2</sub> and NO <sub>x</sub> , than are currently required in Canada. In the case of CEPA, the legal authority to use the full range of tools, including regulations or pollution prevention plans and environmental emergency plans, are available only when a substance is listed by name on Schedule 1. It should be noted again (see response to 2A) that adding a substance to Schedule 1 in itself is not a measure to reduce emissions, and the extent to which PM <sub>10</sub> precursor emissions may have to be reduced using this tool is not determined at this point.

3E	As an alternative approach, the proposed CEPA Guideline for VOCs in Consumer Products should be implemented to harmonize VOC limits with those in the United States.	The CEPA guideline, while a useful measure, will only deal with a small portion of the emissions of VOCs. Many other sources of VOCs as well as the other precursor pollutants need to be considered in managing the risks associated with PM <sub>10</sub> .
3F	As an alternative approach, the Government should carry out a multistakeholder process to identify fast-track, cost-effective actions, develop PM reduction strategies that would be most effective and efficient, and identify and coordinate research programs to improve science.	The proposal does not preclude such actions. Similar actions are already underway through the PM and Ozone CWS process. Currently, analytical approaches to multi-pollutant emission reduction strategies (MERS) are being developed in consultation with provinces and stakeholders. MERS activities are advancing for key industrial sectors. This analytical work will feed jurisdictional implementation plans to be completed in the 2002-2003 timeframe. The CWS also commits governments to conduct and coordinate science activities as part of its commitment to the Joint Initial Actions to reduce pollutants contributing to PM and Ozone.
3G	Emissions of PM <sub>10</sub> and its precursors are more appropriately addressed under CEPA Part 3 (ambient objectives and guidelines) and under Part 7 (international air pollution).	Part 7 of CEPA is only applicable in situations of transboundary air pollution. Part 3 of CEPA is available if needed, but may not be sufficient. The federal government needs access to all "CEPA tools," such as pollution prevention plans and regulations, which are only available if a substance is listed on Schedule 1.
3H	The rationale for declaring precursors toxic has not been followed in other cases of CEPA-toxics (e.g., for acetaldehyde, 1,3-butadiene, acrylonitrile, acrolein).	CEPA 1999 provides for the use of processes other than PSL assessments, which was the process used for the substances mentioned, for determining that a substance is toxic. The rationale is followed in specific cases when it is necessary to reduce precursor emissions to a toxic substance, such as was the case for dioxins and furans.
<b>4</b>	<b>CONSULTATIONS</b>	
4A	The ministers did not conduct full consultations or give advance notice prior to publishing the intent to declare the precursors to PM <sub>10</sub> toxic. The surprise of the proposal is in contravention to the Government's stated "new architecture of environmental management" to partner with industry.	The federal government is committed to meaningful involvement of stakeholders and has carefully considered comments received throughout the process. The ministers published the Notice of Intent and this response to comments to initiate the consultation process and provide an additional opportunity for comment before following the formal consultation process under CEPA 1999. Additional opportunities for stakeholder involvement will be available when planning risk management options.  It should also be noted that there have been opportunities for consultation for more than a decade on various scientific assessments and risk management efforts on PM <sub>10</sub> and its precursors. Examples include the PSL Report for PM, the PM SAD, the Canadian 1996 NO <sub>x</sub> /VOC Science Assessment, international protocols under the United Nations Economic Commission for Europe (UN ECE) to reduce NO <sub>x</sub> and VOCs, and the PM CWS.
4B	The CEPA National Advisory Committee (NAC) should have been given the required opportunity to advise the ministers prior to gazetting the proposal rather than using the public 60-day comment period to obtain provincial feedback.	The federal government considered and responded to written comments on PM <sub>10</sub> and advised the NAC of the ministers' intent. The federal government acknowledged the limited time for NAC input prior to the Notice of Intent on the precursors to PM <sub>10</sub> and agreed that a more extensive process for obtaining advice from NAC would be followed in the future.
<b>5</b>	<b>COMMUNICATIONS</b>	
5A	There is a stigma around "toxic" as seen by the public. It creates strong negative perceptions that make it appear that there is a greater problem than there really is.	Careful communications with the public will be a critical component in the path forward. It should be noted, however, that the public is well aware of the adverse effects of smog and the need to improve Canada's air quality. It is worth noting that studies conducted as part of the CWS process suggest that the adverse effects of PM and ozone on human health in Canada far exceed that of most of the other pollutants already declared toxic.
<b>6</b>	<b>ECONOMICS</b>	
6A	There has been no evaluation of the economic implications of declaring the precursors to PM <sub>10</sub> toxic, which is a Treasury Board requirement. It could cause an unnecessary financial burden and impact on industries (e.g., small business, agriculture).	The addition of precursors to PM <sub>10</sub> to the List of Toxic Substances does not, in itself, control the substances. Therefore, there are no costs or benefits associated with adding the precursors to Schedule 1, as this initiative is solely based on science.  Preliminary economic analyses to support risk management actions were conducted jointly with the provinces and territories when developing the PM CWS. Additional economic analyses will be conducted as required when developing appropriate strategies and control instruments. If the federal government proposes regulations or other instruments for these substances, the Government will undertake an assessment of the impacts associated with the proposed instruments. CEPA 1999 provides for an open and transparent process when developing regulations or instruments.
6B	The proposal will reduce international competitiveness.	The addition of precursors to PM <sub>10</sub> to Schedule 1 does not, in itself, control the substances in any way. Therefore, there are no trade impacts in adding the precursors to Schedule 1. Impacts of any control measure will be analyzed and considered during the risk management phase.
6C	Since the Government has not indicated its long-term plans for management of PM <sub>10</sub> and its precursors, it is impossible to identify the impacts of this proposal.	Impacts will be addressed in the risk management stage when developing specific regulations or instruments. Since the publication of the Notice of Intent, the federal government released its Interim Plan 2001 on PM and Ozone which sets the federal agenda on smog for the coming years. Through the PM and Ozone CWS process, analytical approaches to multi-pollutant emission reduction strategies (MERS) are currently being developed in consultation with provinces and stakeholders. MERS activities are advancing for key industrial sectors. This analytical work will feed jurisdictional implementation plans to be completed in the 2002-2003 timeframe.

<b>7</b>	<b>UNINTENDED CONSEQUENCES</b>	
7A	Declaring the precursors to PM <sub>10</sub> toxic will have unintended impacts on other legislation (e.g., <i>Transportation of Dangerous Goods Act</i> , Workplace Hazardous Materials Information System), existing permits, and strategies (e.g., emissions trading).	The addition of PM <sub>10</sub> precursors to Schedule 1 does not, in itself, control the substances in any way. Therefore, there are no impacts on existing management initiatives or legislation. It does not preclude the use of emissions trading, if it is deemed an appropriate tool during the risk management phase.
7B	Declaring the precursors to PM <sub>10</sub> toxic may result in increases in other pollutants (e.g., ozone and greenhouse gases), and may discourage the development of advanced technologies (e.g., selective catalytic reduction (SCR), which uses and releases small amounts of ammonia).	It is well recognized that certain emission control measures for one given pollutant can cause some increase, usually minor, in another due to energy penalties associated with emission control technologies (e.g., scrubbers for SO <sub>2</sub> will cause slight increases in carbon dioxide (CO <sub>2</sub> ), NO <sub>x</sub> and PM emissions) or phenomenon such as localized ozone scavenging by NO <sub>x</sub> . Such issues, including the use of multi-pollutant control programs, will be addressed in the risk management stage.
<b>8</b>	<b>RISK MANAGEMENT</b>	
8A	There are concerns about the continued usage of manganese-based fuel additives (such as MMT) in Canada, which have been shown to poison the catalyst, reduce fuel economy, and increase PM emissions.	Results from studies on MMT in both Canada and the United States are expected to become available in the coming months and years. The federal government's recently published Notice of Intent for Cleaner Vehicles, Engines and Fuels is projected to result in significant reductions in emissions of various pollutants from the transportation sector, including particulate emissions.
8B	An absence of suitable measuring devices should not be considered an impediment to controlling emissions of these gases.	As specific control measures are developed, the ability to measure and verify emission levels will be taken into account.
<b>9</b>	<b>SCIENTIFIC FOUNDATION</b>	
9A	There are scientific uncertainties with respect to personal exposure, the relative contributions of precursors to the formation of PM <sub>10</sub> , geographic and seasonal variabilities, and conditions under which PM <sub>10</sub> is formed. The PSL assessment for PM <sub>10</sub> does not provide a sense of priority or focus for their control so it is premature to declare the precursors toxic.	<p>While there are some uncertainties in the science, these uncertainties do not refute the conclusion that the precursors can transform into PM<sub>10</sub>, which is toxic. Risk assessments are not intended to identify options for control or priorities. Rather, these uncertainties are related to such things as source-receptor relationships and relative effectiveness of reducing one precursor compared to another. As such, these uncertainties are relevant to the risk management stage and will be considered when identifying priorities for action and developing specific control instruments to reduce emissions of PM<sub>10</sub> and its precursors.</p> <p>The federal government has already outlined some of its priorities to improve air quality in its Interim Plan 2001 for PM and Ozone. The Interim Plan sets out measures where the federal government is best suited to act including a 10-year agenda for cleaner vehicles, engines and fuels (aligned with those in the United States), an upgraded air monitoring network across Canada and an expanded National Pollutant Release Inventory to ensure more reporting of emissions. In addition, analytical approaches to multi-pollutant emission reduction strategies (MERS) are being developed in consultation with provinces and stakeholders. MERS activities are advancing for key industrial sectors. This analytical work will feed jurisdictional implementation plans to be completed in the 2002-2003 timeframe.</p> <p>To support these risk management discussions, the recent report "Precursor Contributions to Ambient Fine Particulate Matter in Canada" (May 2001) has been completed. The report lays out the current ambient data available characterizing the contributions of precursors to fine PM mass across Canada. On average, one-half to two-thirds of PM<sub>2.5</sub> mass can be attributed to contributions from precursor gases in Canada.</p>
9B	The Government should conduct a science assessment, screening assessment, or review another jurisdictions' assessment.	Recommending that the precursors be added to Schedule 1 is based on the fact that they contribute to the formation of PM <sub>10</sub> , which is toxic, not on their direct effects on human health and the environment. A PSL assessment, which does not assess options or set priorities for risk management, would add little to current knowledge and would result in significant delays to the risk management process. Refer to comment #1A for details on the rationale for adding these substances to Schedule 1 of CEPA 1999.
9C	Since the causal linkage has not been scientifically demonstrated between PM and mortality or morbidity, and the specificity of the toxicity of the PM components has not been established, the Government could regulate the wrong thing for the wrong reason.	As stated in the PSL report, the epidemiological evidence for mortality and morbidity in response to current levels of particulate air pollution meets a number of the criteria for causality, including consistency, dose-response relationship, coherence, temporal relationship and specificity (of both outcome and agent). With respect to the biological plausibility of the association, the results of animal studies and, to a lesser extent, controlled human studies provide support for the target tissues and susceptible populations and preliminary indications of possible mechanisms. These particulate matter-related adverse health effects are observed at concentrations currently occurring in Canada. Results worldwide were highly consistent under the widely varying climatic exposure conditions and pollutant mixtures encountered in the different locations. The database supports, therefore, a causal relation between current ambient PM <sub>10</sub> and PM <sub>2.5</sub> exposure and adverse health effects and provides a reasonable basis for preventive action.
9D	The Order is not based on credible causal evidence but on air pollution epidemiology. The proposed Notice of Intent is being made despite a strong lack of information on both the particulate composition and on the identity of the particulate components that may be harmful to health.	As discussed in 9C, there are numerous sources of information to provide support for a causal link between PM <sub>10</sub> levels and mortality and morbidity. In addition, the inorganic composition of PM is qualitatively well understood across Canada, and there are estimates of the carbonaceous fraction for Toronto and Vancouver.

9E	The Government should conduct further research and coordinate efforts with other organizations.	<p>The federal government is committed to improving the science to support risk management actions. In May 2001, Environment Canada compiled existing evidence into a new report titled "Precursor Contributions to Ambient Fine Particulate Matter in Canada." Through participation and support of Canadian and international research associations such as NSERC (Natural Sciences and Engineering Research Council), TSRI (Toxics Substances Research Initiative), PERD (Program on Energy Research and Development), NARSTO (North American consortium for ozone and aerosol research), GAW (Global Aerosol Watch program) and CFCAS (Canadian Federation for Climate and Atmospheric Science), Environment Canada is able to access a broad spectrum of knowledge and expertise and modify its own research program to fill the gaps most relevant to Canada. This new science will continue to be shared with stakeholders as the science tools are evaluated and applied in the development of emission reduction strategies and specific control instruments.</p> <p>It should also be noted that through the process to review the CWS for PM and Ozone by end of year 2005, Environment ministers agreed that additional scientific, technical and economic analysis would be completed to reduce information gaps and uncertainties. As part of this review, a report to ministers will be prepared in 2003 on the findings of PM and Ozone environmental, atmospheric and health science, including a recommendation on a PM<sub>10-2.5</sub> CWS.</p> <p>Through the Joint Initial Actions to reduce pollutants contributing to PM and Ozone, ministers also agreed to enhance the mechanisms for coordination of science activities and research programs. This work will assist in informing the 2005 review of the CWS for PM and Ozone and is ongoing through consultation with stakeholders on science activities.</p>
<b>10</b>	<b>DEFINITION OF PRECURSORS</b>	
10A	The process of selecting the precursors and rationale is unclear. There are a number of other substances that can also contribute to PM formation that have not been considered in this process (e.g., heavy metals, phosphates, carbonates, oxygen, water).	The ministers based their decision on the PSL Assessment Report for PM <sub>10</sub> , which identifies the four principal precursors to PM <sub>2.5</sub> . PM <sub>10</sub> , which covers direct PM emissions that contain heavy metals, are already listed on Schedule 1.
10B	NO is not considered a substance of concern and is not a National Ambient Air Quality Objective (NAAQO).	The PSL assessment for PM <sub>10</sub> identifies NO <sub>x</sub> (NO and NO <sub>2</sub> ) as primary precursors of PM <sub>2.5</sub> . Having a NAAQO is not a requirement for a declaration of toxicity.
<b>11</b>	<b>DEFINITION OF VOCs</b>	
11A	Listing the precursors as broad classes of compounds is not appropriate. Not all VOCs, which comprise thousands of different chemicals, react to produce PM <sub>10</sub> . Each VOC reacts differently in the atmosphere and contributes differently to PM formation.	<p>The addition of a broad class of chemicals to Schedule 1 of CEPA 1999 is appropriate and not unprecedented. For example, polychlorinated dibenzodioxins, polychlorinated dibenzofurans and polychlorinated biphenyls were all added to Schedule 1.</p> <p>All VOCs with seven or more carbon atoms have the potential to contribute to PM formation.</p> <p>The federal government recognizes the varying potential of VOCs to form secondary PM<sub>10</sub>; however this does not refute the conclusion that VOCs can transform into PM<sub>10</sub>, which is toxic. Rather, such issues are relevant to the risk management stage and will be considered when identifying priorities for action and specific control measures to reduce emissions of PM<sub>10</sub> and its precursors.</p>
11B	The proposal will result in common compounds being declared toxic such as isopropyl alcohol (rubbing alcohol), acetic acid (vinegar), and ethanol.	The proposal will not result in such substances being added to Schedule 1 as these substances do not participate significantly in the atmospheric chemical processes of secondary PM formation.
11C	The proposal goes against the purpose of the List of Toxic substances, which is to target the highest priority toxics. Fragrance materials and certain consumer products should receive separate and appropriate consideration.	The List of Toxic Substances is not intended to prioritize substances or actions. Priorities for action are identified in the risk management phase.
11D	Some of the precursors have previously undergone PSL assessments and were declared non-toxic under CEPA (e.g., toluene, xylenes).	The previous science assessments for toluene and xylene assessed their direct toxicity to human health and did not assess the contribution of these substances to the formation of PM <sub>10</sub> or ozone.

### Referenced Documents

Clean Air Agenda ([http://www.ec.gc.ca/air/pdfs/Cleanair\\_e.pdf](http://www.ec.gc.ca/air/pdfs/Cleanair_e.pdf))

Interim Plan 2001 on Particulate Matter and Ozone ([www.ec.gc.ca/air/pdfs/200104\\_e.pdf](http://www.ec.gc.ca/air/pdfs/200104_e.pdf))

Priority Substances List Assessment Report for Respirable Particulate Matter Less Than or Equal to 10 Microns ([www.ec.gc.ca/substances/ese/eng/psap/final/reports/PM-10\\_fin\\_e.pdf](http://www.ec.gc.ca/substances/ese/eng/psap/final/reports/PM-10_fin_e.pdf))

Precursor Contributions to Ambient Fine Particulate Matter in Canada, MSC Report, May 2001 (<http://www.msc-smc.ec.gc.ca/saib/summary-pm2.5-Eng.pdf>)

Notice of Intent for Cleaner Vehicles, Engines and Fuels (<http://canada.gc.ca/gazette/part1/pdf/g1-13507.pdf>)