

## **Benzene Canada-wide Standard – Phase 2**

### **1. What is the Canada-Wide Standard for Benzene?**

Phase 2 of the benzene Canada-wide Standard establishes a target of 6-kilotonne reduction in national emissions by 2010. This 6-kilotonne reduction is in addition to the 30 percent reduction established in Phase 1. Phase 2 also provides national application of Best Management Practices and develops the foundation for additional reductions to be achieved through other air issues programs (including other Canada-wide Standard initiatives). Key actions include follow-through on the benzene in gasoline regulations and voluntary initiatives to reduce emissions from natural gas dehydrators and the steel industry.

### **2. What is the Science on Benzene?**

Benzene is a simple organic compound that is a volatile, clear, flammable, colorless liquid at room temperature with an aromatic odor. In all media it is not persistent or bioaccumulative.

Benzene has been classified as carcinogenic to humans. It is a non-threshold toxicant – a substance for which there is considered to be some probability of harm for critical effects at any level of exposure.

The primary long-term air quality management goal for non-threshold toxicants like benzene is to reduce exposure to the extent possible and practicable thereby reducing the risk of the adverse effects of this pollutant on human health.

### **3. Extent of the Problem**

Current data estimate that transportation, natural gas dehydrators, residential wood combustion, and miscellaneous combustion are the largest sources of anthropogenic releases of benzene in Canada. Steel, petroleum distribution and refining,

chemicals, and prescribed burning are also anthropogenic sources of benzene.

The largest source of benzene exposure for non-smoking Canadians is vehicular emissions. Cigarette smokers are exposed to even higher levels of benzene.

Average ambient levels for benzene in 1998 were 0.3 - 1.0 ug/m<sup>3</sup> in rural areas and 1.0 - 3.2 ug/m<sup>3</sup> in urban areas. In general, ambient levels of benzene in air in Canada are generally at or below the long-term targets set for Europe, the UK and various states in the USA.

### **4. Achieving the Standard**

Efforts towards achievement of this CWS will continue with follow-through on the Phase 1 initial actions listed in the Companion Document that accompanies the Phase 2 CWS agreement. Additional actions include national application of Best Management Practices and additional reductions achieved through collaboration with the PM and Ozone CWS and Dioxins and Furans CWS.

Further information is available from the CCME's website at [www.ccme.ca/](http://www.ccme.ca/).