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Benzene in Canadian Gasoline: Report on the effect of the Benzene in Gasoline Regulations 1999 – Summary

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1.0 SUMMARY

In October 1995, the federal-provincial Task Force on Cleaner Vehicles and Fuels recommended to the Canadian Council of Ministers of the Environment (CCME) that benzene in gasoline be reduced through a federal regulation to 1% by volume and that aromatics (or equivalent benzene tailpipe emissions) be frozen at 1994 levels. The CCME endorsed this recommendation. Consequently, the federal government passed the federal *Benzene in Gasoline Regulations* 1 on November 26, 1997. The regulations came into effect on July 1, 1999.

The *Benzene in Gasoline Regulations* introduced a new approach to controlling fuel composition: namely, allowing regulatees the option to elect to use a yearly pool average as the basis for compliance. This option provides regulatees considerable flexibility in how to meet the requirements of the regulations. The regulations are primarily focused on primary suppliers (refiners, blenders and importers) who can affect the composition of gasoline. There is also a per-litre limit for benzene at the point of sale.

This report reviews how primary suppliers have responded to the regulations and summarizes the effects the regulations have had on the composition of gasoline. All of the information summarized in this report was provided to Environment Canada by the primary suppliers pursuant to the requirements of the regulations.

The regulations have been very successful in achieving both of the recommendations of the Task Force: namely, benzene levels have been significantly reduced and aromatic levels are about the same as they were in 1994. Figures 1.1 and 1.2 show how benzene and aromatics levels have changed since the coming into force of the regulations.

Five instances of batches of gasoline exceeding regulations limits were accurately reported to Environment Canada. In addition, one primary supplier reported five batches exceeding the benzene limit but later stated that these batches were not in fact imported. Many of these occurred during the first month of the regulated requirements. Independent audits (required for those electing to be on a yearly pool average) found numerous instances of non-compliance with the administrative requirements of the regulations: most numerous were in regard to reports required to be submitted to Environment Canada under the regulations. Most of the primary suppliers have outlined corrective action to address these issues. However, it is disturbing that in four instances, required reports were not submitted by primary suppliers and the auditors did not note this lack of compliance. Environment Canada views the audits as a crucial component of the enforcement provisions of the regulations and, to be effective, the auditing process must be independent and thorough.

Figure 1.1: Average benzene content of Canadian gasoline 1994-1999

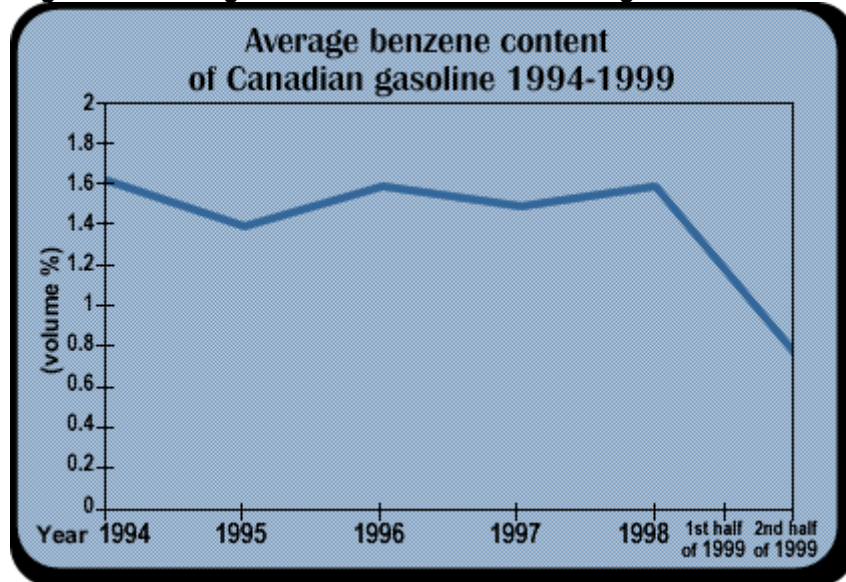
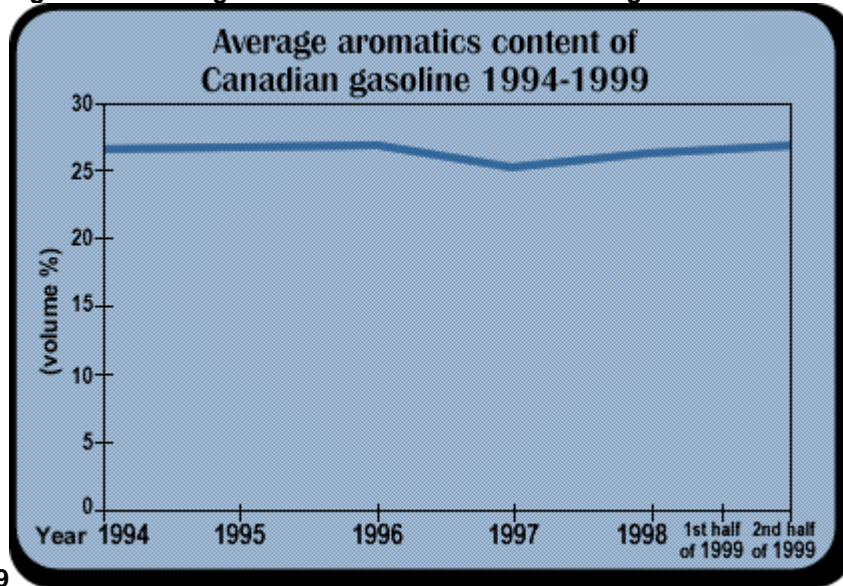


Figure 1.2: Average aromatics content of Canadian gasoline 1994-



1999