

**O.Reg. 206/24: Air Pollution – Discharge of Benzene from INEOS Styrolution  
1-Hour Benzene Limit Exceedance (November 18, 2024)**

Ontario Regulation 206/24: Air Pollution – Discharge of Benzene from INEOS Styrolution requires a report to be submitted to the Ministry of the Environment, Conservation and Parks District Manager of the Sarnia District Office, the Chief of the Aamjiwnaang First Nations, and a provincial officer at the Ministry’s Spills Action Centre within 14 days after an exceedance notification. This report describes the discharge above 90 µg/m<sup>3</sup> over a one-hour period that occurred on November 18, 2024, at eGC#3.

This report contains the information requested in the regulation to the best of our abilities, with the understanding that eGC emission contributors cannot be considered with 100% certainty, as it is difficult to find an exact source of emissions from such low concentrations. However, INEOS has made every effort reasonable to attempt to identify any potential processes, events and/or sources from onsite activities during this period that may have contributed to the final value. The attached table summarizes these findings.

**Summary of Exceedance:**

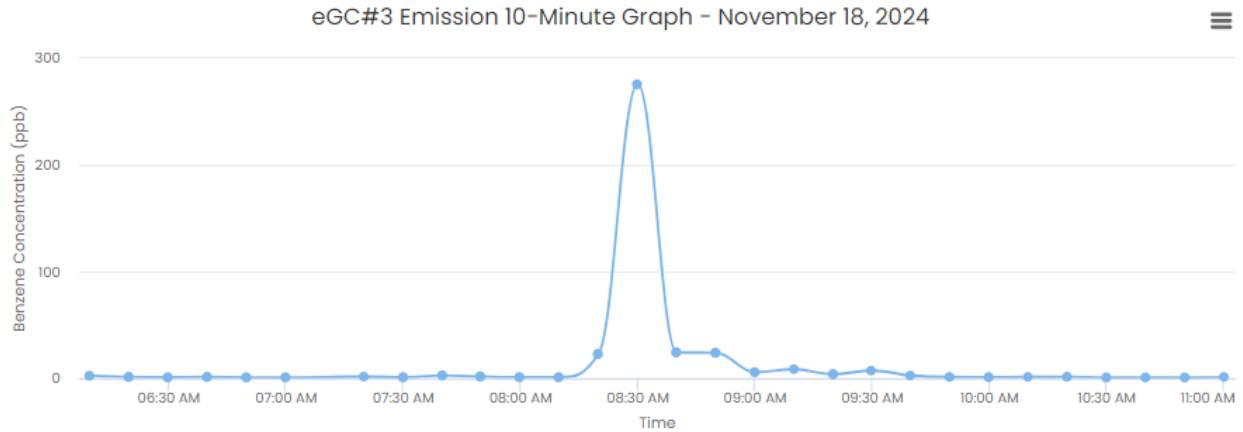
<b>Time Period:</b>	November 18, 2024 at 8:40 am
<b>Location:</b>	eGC#3
<b>Hourly Benzene Concentration:</b>	50.78 ppb (161.99 µg/m <sup>3</sup> )
<b>Operating Condition:</b>	Shutdown/idle state
<b>Wind Direction:</b>	WSW
<b>Wind Speed (km/h):</b>	4.99

**Analysis of the Contravention:**

eGC#3 is located on the east side of Styrene II (see Figure 1) next to the hazardous waste laydown area. During this period, the site continues to be shutdown/idled with limited activity that would produce benzene emissions. A vacuum truck with carbon control system was parked in the hazardous waste laydown area; the vacuum truck contained spent carbon which was scheduled for removal on November 18, 2024. In order to transport the material offsite as waste and meet the requirements of O.Reg. 347, liquid had to be added to the spent carbon to make it a slurry (pumpable) material.



**Figure 1:** Map of eGC#3 and the Hazardous Waste Laydown Area (where vacuum truck was parked).



**Figure 2:** A ten-minute benzene emission graph for eGC#3 capturing the elevated reading which skewed the hourly-average.

At 08:00 on November 18, 2024, the lids of the scrubber unit were opened to begin the transfer activity for the spent carbon into a liquid vacuum truck. This activity was located directly upwind of eGC#3 (see Figure 1), which resulted in a one, 10-minute spike at 8:30am over the period of an hour (see Figure 2). The Sarnia Site utilizes a vacuum truck with carbon scrubber control to minimize benzene emissions. However, to ensure effective control, the carbon needs to be replaced/removed from the unit for waste disposal and fresh carbon installed. The steps taken to make the carbon a slurry is necessary to meet regulatory waste transfer requirements for offsite waste disposal.

In conclusion, the following corrective actions have been identified to reduce offsite impact of benzene emissions during the removal of spent carbon from the scrubber unit of the vacuum truck:

Corrective Action:	Implementation Date:
Safely remove spent carbon from vacuum truck scrubber unit for transportation and disposal off-site per O.Reg.347.	Manifest Number MN-000594817 was completed on November 18, 2024.
Evaluate scrubber vacuum truck procedures and identify whether there is possibility to reduce handling of the spent carbon on site (i.e. transfer material and create slurry at the waste receiving site).	Third-party vacuum truck procedures were updated on December 10, 2024 to ensure spent carbon remains inside truck and transported offsite as per O.Reg. 347 requirements. The handling/offloading of this waste will now occur at the third-party waste receiving site.
Improve disposal process (including the assessment of wind conditions and relocating away from fenceline) for this spent carbon generated on a routine basis.	As mentioned above, the procedures have been updated to relocate the handling of spent carbon offsite at the waste receiving site.