

Frequently Asked Questions

Ambient Air Monitoring for Benzene at NOVA Chemicals Corunna Site

What ambient air monitoring takes place at NOVA Chemicals Corunna Site?

Ambient air monitoring is a requirement of the Ministry of the Environment and Climate Change (MOECC) Petrochemical Industry Standard for benzene compliance, developed under Ontario's Local Air Quality Regulation.

NOVA Chemicals has deployed twelve ambient air monitoring stations around our Corunna Site at locations approved by the MOECC. The monitoring stations collect air continuously through sampling tubes. Tubes are changed out every two weeks, with the collected tubes then being analyzed for benzene at an independent, accredited laboratory. The analysis yields the average benzene concentration in the air over the two week collection period.

What is the Petrochemical Industry Standard for Benzene?

The Petrochemical Industry Standard is one of three compliance approaches to minimize air emissions of benzene (the alternatives are to request a site specific standard or to comply with the air standard). The purpose of the Standard is to identify and implement best available controls to minimize air emissions of benzene.

Industry Standards are developed by the MOECC through a process that combines analysis and engagement with industry and community stakeholders, including First Nations. The result is a set of requirements designed to reduce benzene emissions. These requirements include the establishment of an ambient air monitoring program intended to help companies monitor long-term reductions in benzene emissions.

How often and where are monitoring results reported?

Monitoring results are reported on the NOVA Chemicals' website no later than 60 days after a two-week air sample is retrieved from a monitor.

How does NOVA Chemicals use the results?

We are collecting two-week samples for a three-year period that began January 1, 2018 to establish our facility baseline. The fourth year of monitoring data will be assessed against the baseline for a statistically significant increase. If an increase is noted at any of the twelve locations, then written notice is provided to the MOECC along with the steps taken or that will be taken to prevent, minimize, or reduce the risk of future increases. The baseline will then be updated annually based on measurements from the previous three calendar years to enable subsequent annual assessment.

Why do the monitoring results fluctuate and why aren't the results zero?

Benzene is emitted from a variety of sources, in addition to petrochemical plants and refineries, including gasoline service stations, motor vehicle exhaust and fuel evaporation, and the burning of coal and oil. These other sources generate ambient background benzene concentrations that are independent of industry operations.

Results are influenced by:

- Wind direction and speed
- Ambient air temperature
- How close the monitor is to on-site sources of benzene
- How close the monitor is to off-site sources of benzene

Because of these factors, results can fluctuate - between each monitoring event at the same, or different, monitoring locations.

Proximity is a key factor. Even low emission rates from a source can cause an elevated result if the source is close to a monitor.

What if there is an incident involving benzene. How could that affect the monitoring results?

If there is an incident involving benzene in the vicinity of our Corunna Site, it could contribute to elevated monitoring results.

Proximity is a key factor. Even low emission rates from a source can cause an elevated result if the source is close to a monitor.

How is benzene used at the Corunna Site?

NOVA Chemicals produces benzene as a product at its Corunna Site and delivers it to a local customer by pipeline. We manage benzene carefully from extraction, to storage and transportation, with safety in mind at all times.

What is NOVA Chemicals doing to improve air quality?

Over the last ten years we have invested more than \$1.2 billion into our Ontario manufacturing facilities in order to meet business targets while achieving our environmental objectives.

NOVA Chemicals is proud to have received a 2015 Minister's Award for Environmental Excellence from the Ontario Ministry of Environment and Climate Change. We were recognized for our work to transition our Corunna facility from oil-based to primarily ethane-based feedstock. This shift allowed us to realize the following significant reductions in emissions from 2010 to 2014:

- 39% nitrogen oxide (NOx) emissions reduction

- 8% direct reduction and 19.3% intensity reduction in greenhouse gas (GHG) emissions
- 31% sulphur dioxide (SO₂) emissions reduction

As a member of the Sarnia-Lambton Environmental Association, we believe that by collaborating with our industry peers, associations, governments and communities, we can find innovative ways to make our operations more sustainable for the betterment of society, the environment and the economy.