

# Lambton Facility FAQ

## Volatile Organic Compounds

### Is the odour that I sometimes notice when driving past your facility bad for my health?

Exposure to excessive levels of almost any given chemical can potentially be hazardous to health. However, measured downwind levels for a variety of individual volatile organic compounds, which may be emitted from Clean Harbors' Lambton incineration and landfill operations, are typically well below accepted regulatory concentration limits.

The Ontario Ministry of the Environment (MOE) uses analysis of "point of impingement" (POI) air quality to determine the impact of the Lambton incinerator. The MOE's POI standards have been developed through application of scientific risk assessment techniques.

This risk assessment approach accepts a one-in-a-million chance as the "acceptable risk". POI standards and guidelines are set for each contaminant at that level, and industry must operate below those standards to be in compliance. These limits are intended to protect human health and incorporate significant margins of safety.

Independent air quality monitoring studies conducted annually indicate Lambton's air emissions are well within the POI guidelines. In most cases, our emissions are only a fraction of the allowable limit. The Ministry observes and provides comments on the methodology used in this stack emissions testing program.

Nuisance odours, which often comprise a mixture of substances, do not typically relate to health hazards

since many odours can be perceived at constituent concentrations well below any known effects—sometimes below current constituent measurement capabilities— and often encompass highly variable constituent odour thresholds.

Naphthalene was repeatedly measured under 'worst-case' conditions downwind of the landfill. In the past at times, naphthalene levels exceeded their respective ½ hour POI odour based guideline. Since the Land Disposal Restrictions program has come into place, it has established treatment requirements for hazardous wastes that will be land disposed. These treatment requirements have significantly reduced naphthalene levels, and recent air monitoring events have shown a reduction in measured levels of naphthalene odours at the facility fence line.

In Lambton's case, the leachate is collected in the active landfill, conveyed to a storage lagoon, and transferred to the on-site incinerator for final destruction. The source of the odours is with the exposed leachate, and the odours are generated as a result of an anaerobic or septic condition. This condition occurs when oxygen transfer to the leachate is inadequate and in the anaerobic state, the microbes present in the leachate have no dissolved oxygen to breath. This allows microbes known as "sulfate-reducing bacteria" to flourish. In our case in early August the leachate turned septic probably due to the hot and humid conditions experienced in July. Typically the odourous compounds include sulfides, mercaptans, and volatile organic compounds such as acetone, naphthalene and styrene.

