

Submitted: July 5, 2022

**Presentation to Economic and
Community Development Committee on
Gas Powered Leaf Blower (GLB) Ban**

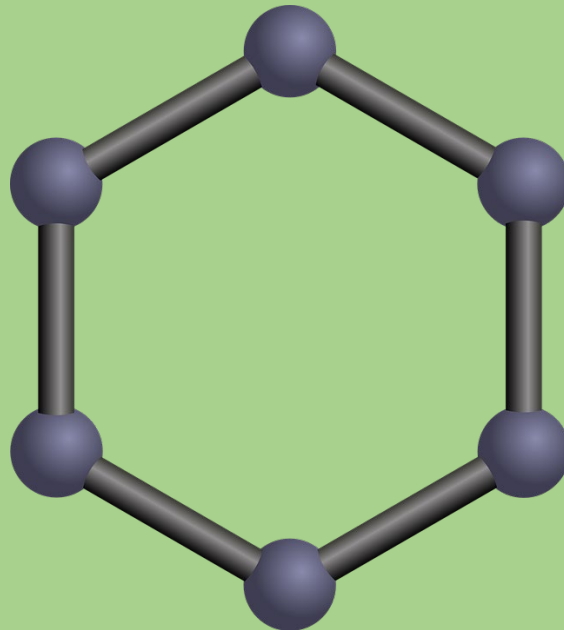
**Item EC31.4, Report on Outstanding Noise
Directives**

**By Monty McDonald P Eng
Co Chair Bayview Village Environment
Committee**

Gas-powered leaf blowers &
similar equipment are a
serious public health concern
“Not just about Noise”

Exposure to Carcinogens

Leaf blower operators & bystanders exposed to **benzene** and other carcinogens



Benzene molecule

Its all about unburned Gasoline!

- 30% of gasoline+ oil fuel goes through a 2-stroke engine unburned
- Exhausted as a toxic aerosol anyone nearby breathes in
- The concentration of Unburned gasoline in exhaust calculates to **20,680 PPM (parts per million)**
- Almost 100 times the concentration in exhaust of today's automobiles (4 stroke engine)

Breathing Gasoline Vapours causes Cancer

- Oil companies post this warning on filling station pumps
- Most carcinogenic component in gasoline is **BENZENE**
 - Other carcinogens too
- Federal Law: oil companies must maintain the level of **BENZENE below 0.95% for gasoline sold in the year**
- Oil Companies control to this limit

Benzene exposure in workplaces

- Benzene used in chemical manufacturing (e.g. Polystyrene, synthetic rubber) as well as gasoline component
- Occupational Health & Safety Act - Short Term Exposure Limit (STEL) for Benzene in air: max 2.5 PPM over 15 minutes
- Plant Alarms go off when STEL is exceeded
- Calculated level of benzene in GLB exhaust
 $20,650 \text{ PPM Gasoline} \times 0.95\% \text{ Benzene} = 196 \text{ PPM in exhaust}$

What is GLB Operator's exposure to BENZENE in his work place? STEL = 2.5PPM

- GLB operator's workplace is GLB on his back. The exhaust is typically **2-3 feet from operator's face**
- Case A: exhaust **diluted to 20%** by surrounding air
 - 196 ppm at exhaust x 20% dilution = 39 PPM
 - Exposure over **15 times OSHA regulation**
- Case B: exhaust is **diluted to only 5%** by surrounding air
 - 196 ppm at exhaust x 5% dilution = 9.8 PPM
 - Exposure almost **4 times the OSHA regulation**

What about a bystander who smells Gasoline fumes from a GLB?

- Our noses cannot detect most VOCs below 300ppm
- Minimum exposure at bystander's nose = 300ppm gasoline x 0.95% Benzene = 2.85ppm
- Exceeds STEL of 2.5ppm

Exposure to hazardous dust

- Air from GLB blower at 200+ km/ hour pulverizes what it hits into fine dust, finer than found in nature
- Remains airborne for days
- Much of it so fine, it gets past protective cilia in our airways into the lungs
- Contains pollen, moulds, fungus, bacteria, viruses, fertilizer, herbicides, pesticides, animal excrement, asbestos brake-lining dust, carbon black from tire wear and heavy metals
- Includes carcinogens & fine particulates detrimental to respiratory system

In conclusion

- Gas powered leaf blowers & similar equipment overexpose users and the public to excessive levels of carcinogens and hazardous dust
- Banning this equipment under Toronto's noise by-law will stop their obnoxious noise AND
 - protect the health of workers who use GLBs
 - protect City workers who use GLBs
 - Protect Toronto citizens