Diesel and gasoline exhaust are mixtures of gases, particles, and many different chemicals. Some of the pollutants in diesel and gasoline exhaust that impact human health include nitrogen dioxide (NO₂), particulate matter (PM), and polycyclic aromatic hydrocarbons (PAHs). The make-up of diesel and gasoline exhaust is variable depending on fuel type, engine type, and operating conditions.

### Health Effects of Diesel and Gasoline Exhaust

Energy from diesel- and gasoline-powered vehicles and equipment are major sources of air pollutants in Canada, especially in large cities. The health effects of air pollutants from diesel and gasoline exhaust include:

- Increased asthma symptoms
- Increased allergy symptoms
- Increased lung problems
- Increased heart problems
- Increased hospital admissions
- Increased medical visits
- Lung cancer
- Premature death

### Mainly Diesel Fuel

- Transport trucks
- Buses
- Ships
- Trains
- Generators
- Construction
- Mining
- Agriculture

### Mainly Gasoline Fuel

- Cars, trucks, and motorcycles
- Boats
- Lawnmowers
- Chainsaws
- Snowmobiles
- All-terrain vehicles (ATVs)
- Jet skis

### Where Do Diesel and Gasoline Exhaust Come From?

Any vehicle or engine that uses diesel fuel produces diesel exhaust and any vehicle or engine that uses gasoline fuel produces gasoline exhaust. For vehicles and engines, exhaust is released from the tailpipe or muffler. Some examples of vehicles and engines that use diesel fuel or gasoline fuel include:

- Snowmobiles
- Chainsaws
- Lawnmowers
- Jet skis
- Generators
- Mining
- Agriculture
- Transport trucks
- Buses
- Ships
- Trains
- All-terrain vehicles (ATVs)
- Boats

### How Are Canadians Exposed to Diesel and Gasoline Exhaust?

People’s exposures to diesel and gasoline exhaust depend on:

- Mode of transportation (e.g., vehicle, bus, train, boat) and time spent in transit
- Time spent outside close to roadways
- Heavy traffic (e.g., major roads and highways) close to their home, school, and workplace
- Being close to transport hubs, including bus or train stations and marine ports
- Being close to or using diesel- or gasoline-powered equipment
- Weather conditions (e.g., temperature, wind, precipitation)

### How Can I Protect Myself from Diesel and Gasoline Exhaust and Air Pollution in General?

Ways to reduce exposure:

- Avoid or reduce exercising near heavy traffic, especially during rush hour
- Choose low-traffic routes for walking, running, or cycling
- Exercise in parks and green spaces, away from major roadways
- Avoid or reduce strenuous outdoor activities when air pollution levels are higher

Know the best times to be active outdoors:

- Check the Air Quality Health Index in your community (airhealth.ca)
- If you have a heart or lung condition, talk to your health care professional about additional ways to protect your health when air pollution levels are higher

### What Action Is the Government of Canada Taking on Air Pollution from Diesel and Gasoline Exhaust?

Increasingly more stringent federal regulations have been introduced over time to reduce air pollutant emissions from diesel- and gasoline-powered vehicles and equipment. Reductions in emissions, from these regulations, are mainly due to:

- Improved engine performance
- Adoption of the latest emission control technologies
- Cleaner fuels, including fuels with low sulphur content

Of all cars, trucks, and buses used in Canada, approximately 92% use gasoline and only 8% use diesel. However, diesel vehicles contribute to greater than 50% of some key air pollutant emissions from all on-road vehicles in Canada.