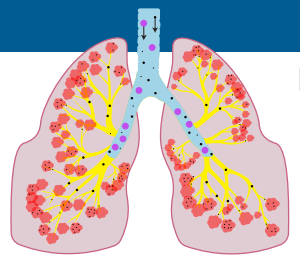
Diesel Engine Exhaust

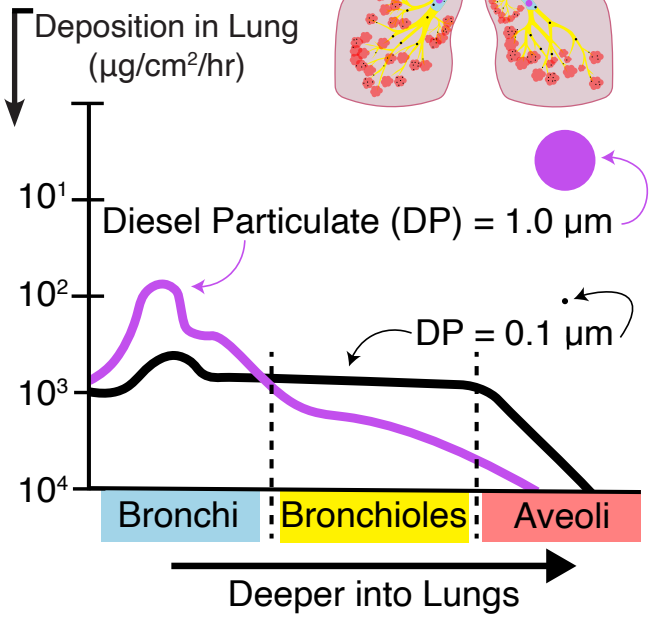
Diesel engines produce tailpipe emissions that are a mixture of gases and particles. Although the gases in diesel exhaust have harmful components, the focus of this project is on the particulates in exhaust.

Diesel particulates are made up of: soot particles, carbon, ash, polycyclic aromatic hydrocarbons (PAHs), metallic abrasion particles, sulfates, and silicates.
90% of particles are smaller than 1 µm (about the size of a virus).[1]

Inhalation is the most common way that workers are exposed to diesel particulates and very small particles can travel to the deepest parts of your lungs and cross into your body tissues.[2]



[3]



Learn more at:

www.dieselparticulateproject.com

Questions? Reach out to:

Sean Staddon
WSIB Worker Representative
United Steelworkers Local 6500
(705)675-3381 ext 229
pac@uswsudbury.ca

References listed at
www.dieselparticulateproject.com

This brochure was revised September 2023.

Diesel Particulate Project
United Steelworkers

Let's Make 20 µg/m³ the Limit!

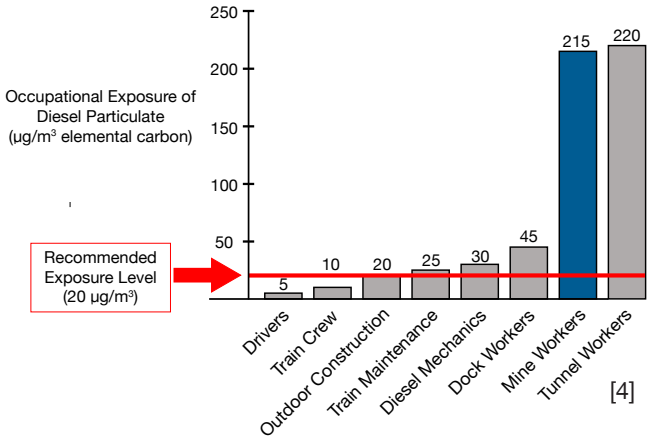
USW FAMILY & COMMUNITY EDUCATION FUND
LE FONDS D'ÉDUCATION FAMILIALE ET COMMUNAUTAIRE DES MÉTALLOS

CROSH CRSST
centre for research in occupational safety and health at Laurentian University
centre de recherche sur la santé et sécurité au travail à l'Université Laurentienne

UNITED STEELWORKERS USW MÉTALLOS

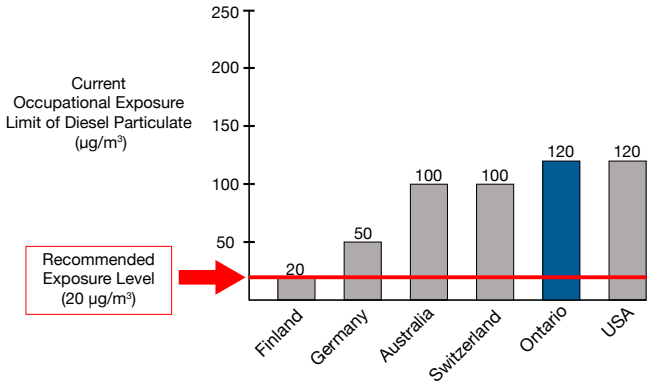
You are being overexposed to harmful diesel particulates.

Mine workers are exposed to some of the highest levels of diesel particulates of Ontario workers.



[4]

This is because Ontario mines have some of the highest Occupational Exposure Limits in the world at 120 µg/m³.



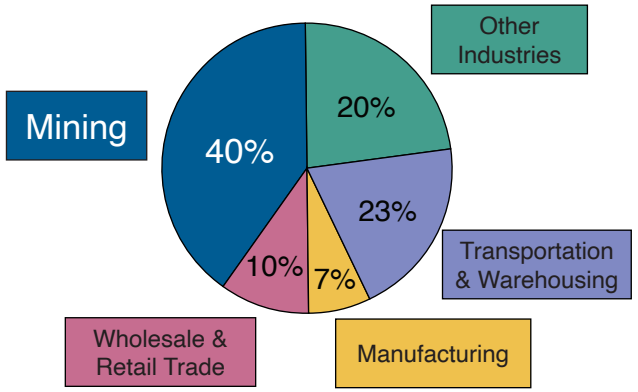
[5]

Diesel particulates cause occupational disease.

The International Agency for Research on Cancer (IARC) classifies diesel particulates as Group 1. This category is for substances that are known to cause cancer in people.[4]

Research shows diesel particulate causes or contributes to: **lung and bladder cancer; lung diseases; heart and vascular diseases.**[6]

The mining industry has the highest rate of diesel exhaust-related lung cancer.



Adapted from [7]

Diesel particulate exposure worsens symptoms from existing health conditions including: **diabetes; asthma and other lung diseases; high blood pressure, heart disease, and peripheral artery diseases.**[6]

Short-term exposure can cause: **headaches; dizziness; shortness of breath/asthma attack; nose, throat and eye irritation; productive cough and phlegm.**[6]

The Government of Ontario must reduce the OEL for diesel particulate in mining.

The goal is 20 µg/m³

(Elemental Carbon)

The Occupational Cancer Research Centre recommends an Occupational Exposure Limit (OEL) for diesel particulate emissions of 20 µg/m³ elemental carbon to protect miners' health and provide safe working conditions.[7] To truly protect workers' health, the OEL should be as low as reasonably achievable.

Make the change happen!

What to do:

- Attend the USW information session
- Fill out a WSIB exposure form
- Speak up about the risks of diesel particulate exposure
- Speak to your worker health and safety rep or Joint Occupational Health and Safety Committee
- Request that your exposure level be measured at work

Learn more at:

www.dieselparticulateproject.com