



Occupational Disease Action Plan (ODAP) and collaboration between system partners



An initiative of the Ontario Provincial Government is the establishment of the Occupational Disease Action Plan (ODAP). As part of this plan **working groups** have been set up to address priority hazards, one of which is diesel exhaust.

This presentation will address the latest activities in Ontario as part of the Occupational Disease Action Plan (ODAP).

Kevin Hedges

MDEC 2018

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Occupational Disease Action Plan (2017-2019)



• **Priorities**

- General Occupational Disease Awareness
- Noise
- Allergens & Irritants (skin & lung)
 - Wet Work
 - Cleaning Agents
 - Isocyanates
 - Preservatives
- Diesel Exhaust
- Emerging Issues

• **Approaches:**

- Intelligence & Decision Support
- Research & Data Management
- Awareness
- Advisory & Support Services
- Education and Training
- Legislation & Enforcement
- Programs

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Occupational Disease Action Plan (2017-2019)

• Objectives

1. Reduce illnesses and fatalities associated with occupational diseases in Ontario
2. Prioritize based on the best available evidence (research & data), current environment & opportunity for impact
3. Build upon previous and ongoing OD work, find opportunities to address gaps in prevention

• System Partners

- Ministry of Labour
- OHCOW
- IHSA
- WSN
- PSHSA
- WSPS
- WHSC
- WSIB
- OCRC
- CRE-OD
- Public Health Ontario
- Lung Association of Ontario

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Why is exposure to diesel exhaust an issue?



Organisation	Year	Comments
HEI ¹	1999	Evidence not strong enough
ACGIH ²	2002	Recommended 0.02mg/m ³ (measured as REC)
ACGIH ²	2003	Recommended limit withdrawn
MSHA ³	2008	Evidence becoming stronger - Effective date for Occupational exposure limit (OEL) in the US for underground metal / non-metal 0.16mg/m ³ (TC) ~ 0.12 (REC)
IARC ⁴	2012	Strong evidence – IARC monograph – confirmed carcinogen. Lung cancer.
NCI / NIOSH ⁵	2010 - 2013	Study findings support a much lower OEL which may have a significant impact on UG mining.
HEI ¹	2013	Expert panel established
HEI ¹	2014 6 March	Workshop held in Boston – open to public, academia, regulators, industry and engine manufacturers.
HEI ¹	November 2015	Expert panel review released. Strong evidence! Likely significant impact especially in UG mining!

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Why is exposure to diesel exhaust an issue (the latest)?



Organisation	Year	Comments
BHPB ⁶	November 2015	After reviews by a leading Australian Epidemiologist and the IOM ⁷ BHPB (Global Standard) – Exposure must be as low as technically feasible . Interim target set at 0.03mg/m³ (measured as EC NIOSH 5040)
Health Canada ⁸	2017	Human Health Risk Assessment for Diesel Exhaust. Causal lung cancer, suggestive bladder cancer.
OCRC ⁹	2017	Burden of Occupational Cancer in Ontario. Policy Recommendations For Diesel Engine Exhaust: 1. Adopt occupational exposure limits of 0.02mg/m³ (elemental carbon EC) for the mining industry and 0.005 EC mg/m³ for other workplaces . 2. Upgrade or replace old on-road and off-road trucks and diesel engines. (OCRC, 2017 p.25).

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Occupational Disease Action Plan (ODAP) and collaboration between system



System Partner	Role
Occupational Health Clinics for Ontario Workers (OHCOW)	Lead ODAP and lead diesel exhaust working group .
Ministry of Labour, Prevention	Lead strategy and integration branch (SIB)
Ministry of Labour, Operations	Representative
Ministry of Labour, Policy	Representative
The Centre for Research Expertise in Occupational Disease (CREOD)	Lead allergens and irritants working group
Infrastructure Health and Safety Association (IHSA)	Representative
Public Health Ontario (PHO)	Representative
Public Services Health and Safety Association (PSHSA)	Representative
Workers Health and Safety Centre (WHSC)	Representative
Workplace Safety and Insurance Board (WSIB)	Representative
Workplace Safety North (WSN)	Representative
Workplace Safety and Prevention Services (WSPS)	Lead noise working group
Occupational Cancer Research Centre (OCRC)	Lead information and decision support working group
Ontario Lung Association (OLA)	Representative



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ODAP WG: Diesel exhaust

Occupational Disease Action Plan Implementation
Activities from Diesel Working Group Terms of Reference



How do we **prevent occupational exposures** to diesel exhaust for **“ALL WORKPLACES”**

Items from Terms of Reference	Activities
2.1 Jurisdictional scan	Look for leading practices – Example requirement for diesels used in construction and tunneling in Switzerland to be fitted with diesel particle filters (DPF) https://www.dieselnet.com/standards/ch/nonroad.php Refer to VERT https://www.vert-dpf.eu/ for certification of filters. Canadian Federal Requirements?
3.1 Raising awareness	Occupational Cancer Research Centre (OCRC) has worked closely with Workplace Safety North (WSN) and developed Infographics: Controlling diesel particulate matter from on-road vehicles and underground mines . OCRC / MIRARCO Lung Cancer and Prevention in Mining Conference OCRC Report: Burden of Occupational Cancer in Ontario – Major Workplace Carcinogens and Prevention of Exposure Learn from Mining – Mining Diesel Emissions Council
4.1 Deliver educational opportunities	WSN has developed a generic training module for Joint Health and Safety Committees (JHSC) ODAP / OCRC has partnered with CARcinogen Exposure (CAREX – Canada) to deliver a Webinar on June 5th, 2018 from 11am – 12pm PDT, 2 – 3pm EDT
5.1 Align system educational resources	<p>2018</p> <p>Learn from mining</p> <p>2019 and beyond</p>
5.2 Identify gaps to develop new resources	
5.3 Review mandatory training initiatives to identify opportunities to strengthen prevention	
5.4 Align existing training initiatives	
5.5 New training initiatives	

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OCRC Occupational Cancer Research Centre

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Home | Institute of Work Canada | Burden of Disease | Occupational Disease | 416-2-1-1111 | Occupational Cancer Research Centre | Email Us

FEATURED PROFILE

Victoria H. Swoboda
Associate Director and Scientist
[View Biography](#)

CAREX Canada webinar on diesel exposure in workplaces
[View source](#)

Canadian Association for Research on Work and Health 2018 Conference
[View source](#)

Ministry of Labour opens consultation on proposed changes to Ontario's occupational exposure limits
[View source](#)

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HAZARD ALERT
Health effects of diesel exhaust
Risk of cancer and respiratory diseases

Workplace Safety North

CONTROLLING DIESEL PARTICULATE MATTER FROM ON-ROAD DIESEL ENGINES

	ELIMINATION/SUBSTITUTION	ENGINEERING CONTROLS	ADMINISTRATIVE CONTROLS
Proactive controls	<p>Proactive Controls Avoid or minimize diesel engine exhaust exposure to workers in the workplace.</p> <p>Alternative Energy Use alternative energy sources such as electric, compressed air, hydraulic, or pneumatic power to drive tools and equipment.</p> <p>Replacing or Repowering Replace older diesel engines with newer, cleaner diesel engines or repower with alternative energy sources.</p>	<p>Local Exhaust Ventilation Use local exhaust ventilation (LEV) systems to capture and remove diesel engine exhaust at the source.</p> <p>Airtreatment Systems Use airtreatment systems such as particulate filters, catalytic converters, and diesel particulate filters (DPFs) to reduce diesel engine exhaust emissions.</p>	<p>Restrictions Restrict workers from entering areas with high concentrations of diesel engine exhaust.</p> <p>Work Scheduling Schedule work to avoid high concentrations of diesel engine exhaust.</p> <p>Job Rotation Rotate workers to avoid high concentrations of diesel engine exhaust.</p>
Passive controls	<p>General Ventilation Use general ventilation systems to dilute diesel engine exhaust concentrations.</p> <p>Isolation Use isolation enclosures to contain diesel engine exhaust.</p> <p>Personal Protective Equipment (PPE) Use respirators to protect workers from diesel engine exhaust.</p>	<p>Respirators Use respirators to protect workers from diesel engine exhaust.</p> <p>Work Scheduling Schedule work to avoid high concentrations of diesel engine exhaust.</p> <p>Job Rotation Rotate workers to avoid high concentrations of diesel engine exhaust.</p>	<p>Respirators Use respirators to protect workers from diesel engine exhaust.</p> <p>Work Scheduling Schedule work to avoid high concentrations of diesel engine exhaust.</p> <p>Job Rotation Rotate workers to avoid high concentrations of diesel engine exhaust.</p>
Reactive controls	<p>Reactive Controls Use reactive controls such as air quality monitoring to detect and respond to diesel engine exhaust exposure.</p>		

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CAREX-OCRC Webinar on Diesel Exposure in Workplaces

This webinar conveys the importance of diesel engine exhaust as a workplace hazard and discusses ways this hazard can be assessed and controlled in the workplace. It was presented in partnership with the Occupational Cancer Research Centre (OCRC) and Ontario Occupational Disease Action Plan (ODAP) Working Group on Diesel Exhaust.

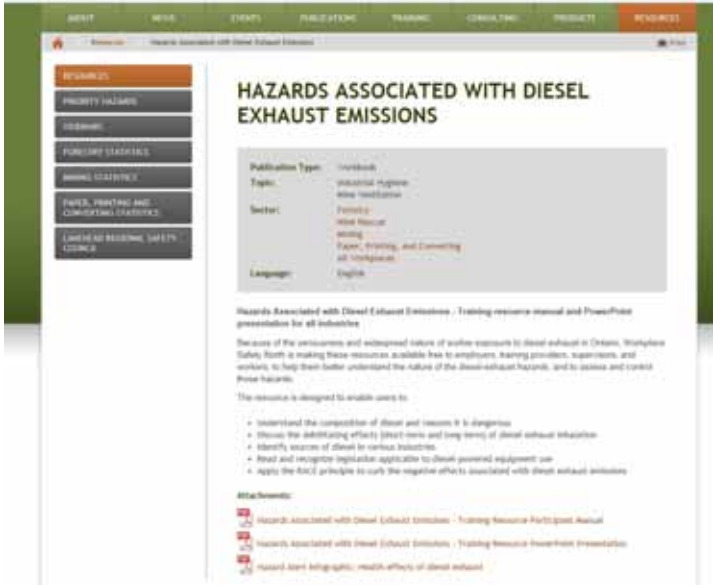
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Resource Catalogue

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HAZARDS ASSOCIATED WITH DIESEL EXHAUST EMISSIONS

Publication Type:	Handbook
Topic:	industrial hygiene air quality
Sector:	Industry diesel engine mining Paper, Printing, and Coasting all occupations
Language:	English

Hazards Associated with Diesel Exhaust Emissions - Training resource manual and PowerPoint presentation for all industries

Because of the seriousness and widespread nature of worker exposure to diesel exhaust in Ontario, Workplace Safety North is making these resources available free to employers, training providers, supervisors, and workers, to help them better understand the nature of the diesel-exhaust hazards, and to assess and control these hazards.

The resource is designed to enable users to:

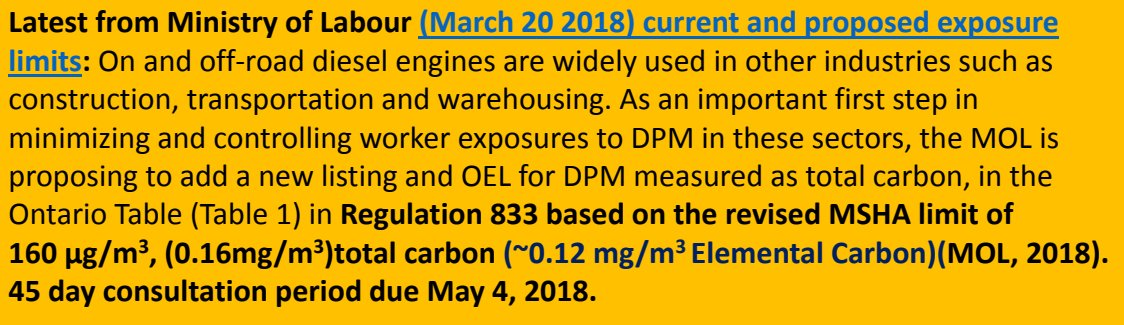
- understand the composition of diesel and recognize it is dangerous
- discuss the debilitating effects (short-term and long-term) of diesel exhaust inhalation
- identify sources of diesel in various industries
- read and recognize legislation applicable to diesel-powered equipment use
- Apply the RACE principle to curtail the negative effects associated with diesel exhaust emissions

Attachments:

- Hazards Associated with Diesel Exhaust Emissions - Training Resource Participant Manual
- Hazards Associated with Diesel Exhaust Emissions - Training Resource PowerPoint Presentation
- Hazard Alert Infographic: Health effects of diesel exhaust

<https://www.workplacesafetynorth.ca/resources/hazards-associated-diesel-exhaust-emissions>

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Latest from Ministry of Labour ([March 20 2018](#)) [current and proposed exposure limits](#): On and off-road diesel engines are widely used in other industries such as construction, transportation and warehousing. As an important first step in minimizing and controlling worker exposures to DPM in these sectors, the MOL is proposing to add a new listing and OEL for DPM measured as total carbon, in the Ontario Table (Table 1) in **Regulation 833 based on the revised MSHA limit of 160 µg/m³, (0.16mg/m³)total carbon (~0.12 mg/m³ Elemental Carbon)(MOL, 2018). 45 day consultation period due May 4, 2018.**

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