March 18, 2025 |

Briefs

Submission to WCB re Consultation on proposed ACGIH occupational exposure limits

See a pdf of the complete submission here(316 KB).

Introduction

The BC Federation of Labour (“Federation,” “BCFED”) appreciates the opportunity to provide our recommendations regarding the proposed amendments to Part 5, Occupational Exposure Limits (OELs).

The Federation represents more than 500,000 members of our affiliated unions, from more than 1,100 locals working in every aspect of the BC economy.

The Federation is recognized by the Workers’ Compensation Board (“WCB,” “Board”) and the government as a major stakeholder in advocating for the health and safety of all workers in BC and full compensation for injured workers.

The BCFED is pleased to have the opportunity to participate in the consultation on proposed occupational exposure limits based on the new or revised American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs) for selected chemical substances.

We urge the Board of Directors to seriously consider our recommendations to achieve our goal of ensuring that BC health and safety regulations set standards that will prevent workers from injury and death.

This submission was prepared in consultation with our affiliates.

We will address those sections of the regulation that we believe require further amendments.

Submission

Part 5: Consultation on proposed occupational exposure limits based on the new or revised ACGIG TLVs for selected chemical substances

Each year, the ACGIH publishes a list of substances for which it has set new and revised TLVs, retained TLVs or withdrawn TLVs. The ACGIH is a scientific organization that publishes workplace occupational exposure limits guidelines.

A TLV is an airborne concentration of a chemical substance for which nearly all workers are believed to experience no adverse health effects over their lifetimes.

The BCFED has expressed concern in past submissions regarding the ACGIH's cautionary statements about the use of their list of TLVs by statutory bodies:

- ACGIH proposes guidelines known as TLVs and Biological Exposure Indices (BEIs) for industrial hygienists to use in making decisions regarding safe levels of exposure to various workplace hazards.
- ACGIH is not a standard-setting body.
- Regulatory bodies should view TLVs and BEIs as an expression of scientific opinion.
- TLVs and BEIs are not consensus standards.
- ACGIH TLVs and BEIs are based solely on health factors; no consideration is given to economic or technical feasibility. Regulatory agencies should not assume that it is economically or technically feasible to meet established TLVs or BEIs.

- ACGIH believes TLVs and BEIs should NOT be adopted as standards without analyzing other factors necessary to make appropriate risk management decisions.
- TLVs and BEIs can provide valuable input into the risk characterization process. Regulatory agencies dealing with hazards addressed by a TLV or BEI should review the full written documentation for the numerical TLV or BEI.[1]

Despite these cautions, most provinces (BC, Manitoba, New Brunswick, Newfoundland, Prince Edward Island and Nova Scotia) use the ACGIH list of TLVs. Ontario sets its own levels of allowable exposures in combination with ACGIH.

Many professionals consider the ACGIH list the gold standard for setting OELs.

The Chemscape blog accurately describes our concerns: "The reality is their (ACGIH) recommendations are not always adopted due to insufficient technology to control or measure and lack of funding and political will for regulatory updating and reviews."[2]

At each yearly WCB TLV review, we are presented with a list of chemical TLVs for which the ACGIH has recommended lower levels of exposure and which the WCB accepts, and a second list of chemicals for which the ACGIH has recommended lower levels of exposure, which are excluded. The primary reason for the exclusion is insufficient technology to control or measure the chemicals.

Our concern with the growing list of excluded chemicals will be addressed later in this submission.

The BCFED continues to be very concerned about the difficulty of finding the ACGIH list of TLVs, as many workers will be unaware that it is in the guidelines.

The ACGIH list is referenced throughout Part 5: Chemical Agents and Biological Agents in Section 5.1 Definitions, Section 5.48 Exposure Limits, Section 5.57 Designated Substances, and Section 5.58 Protective Policy, but there is no reference to the ACGIH list of TLVs in these sections.

Recommendation

The BCFED again recommends adding a note to Part 5 indicating where users can find the ACGIH lists of TLVs to improve accessibility.

Even more problematic is accessing the list of excluded chemicals, which has grown to approximately 370 exclusions. The list is found in Policy Item R5.48-1.[3] We are concerned that the list of exclusions does not include the column for notations found in the ACGIH list. The purpose of the notation is explained in the guideline as follows:

> Notations identify substances considered carcinogens, sensitizers, and those with adverse reproductive effects under section 5.57 of the OHS Regulation. Section 5.57 deals with requirements for substitution and keeping exposure as low as reasonably achievable below the exposure limit.[4]

Anyone, including workers, researching the excluded chemicals list will have to refer to the ACGIH list for information on the health effects of chemical exposure.

The BCFED has made this recommendation regarding the review of the ACGIH TLVs in each submission. We remain disappointed that, once again, the WCB has not implemented our recommendation.

Recommendation

The BCFED strongly recommends that the WCB amend the list of excluded chemicals to include the notations column.

The WCB proposes to retain the existing Occupational Exposure Limits (OELs) for ten substances

The BCFED does not support the ever-growing list of excluded substances. The rationale for maintaining current WCB OELs is the lack of validated sampling methods and laboratory analysis for the lower ACGIH OELs.

We are particularly concerned with the exemption of the following chemicals:

- tert-Butyl hydroperoxide
- Glycidyl methacrylate
- Phenylethyl alcohol
- Propionitrile
- Triclosan

1. Tert-butyl hydroperoxide. This chemical, which has the health effect designation IARC A2 (I) carcinogen, is widely used in plastic composite manufacturing.
2. Glycidyl methacrylate. The health effect designations are IARC A2 carcinogen, Skin exposure, and (I) special note designation, meaning there is no TLV or STEL.
3. Phenylethyl alcohol. The health effect designation is (R) Reproductive effects and Skin exposure, and (I) special note, meaning there is no ACGIH TLV or STEL.
4. Propionitrile. The health effect designation is (R) reproductive effects and skin exposure, and (I) special note designation means there is no ACGIH TLV or STEL.
5. Triclosan. The health effect designation is ACGIH Skin exposure, and (I) special note, meaning there is no ACGIH TLV or STEL. Triclosan is widely used in thousands of personal care, consumer, and building products. In 2016, the USA banned 16 anti-microbial, including Triclosan, based on insufficient evidence demonstrating the safety of long-term daily use.[5] Despite this evidence, unfortunately, Triclosan has not been banned in Canada, although its use in mouthwashes, nonprescriptive drugs, and cosmetics is controlled.

These chemicals have the most serious health consequences for workers. For example, three chemical exemptions on this list are designated as reproductive toxins, and two are suspected carcinogens.

- Reproductive toxins are substances that can cause adverse effects on the reproductive system, impacting both males and females and potentially leading to infertility or other reproductive problems.
- These toxins can affect various reproductive cycle stages, including sperm production, egg development, fertilization, implantation, and fetal development.

Recommendations

The BCFED again makes the following recommendations in the belief that other requirements and practices should be used to deal with chemicals with higher allowable TLVs to ensure worker health and safety:

1. Two of the chemicals on the excluded list are confirmed human carcinogens, and it is unacceptable that workers will continue to be exposed to higher Occupational Exposure Limits (OELS). Carex Canada has released a report, “Burden of Occupational Cancer in Canada,” to "describe and identify occupational exposure and burden estimates by industry and/or province for the most important cancer risk factors in Canada.” The report proposes policy recommendations and workplace opportunities for reducing exposure to occupational carcinogens.[6]
2. The BCFED believes adverse health effects from chemical exposures should carry more weight in the WCB’s OEL Review Committee (OELRC) decision-making process, especially when validated sampling methods, lab analysis and economic and technical feasibility issues are lacking.
3. The BCFED recommends the WCB adopt The National Institute of Health and Safety (NIOSH) process for classifying chemicals without OELs called Occupational Exposure Banding (OEB), also known as hazard banding, a process intended to quickly and accurately assign chemicals into specific categories (bands), which correspond to a range of exposure concentrations designed to protect worker health. These bands are assigned based on a chemical’s toxicological potency and the adverse health effects associated with exposure to the chemical [McKernan et al. 2016].[7]
4. Part 5, Chemical and biological agents, requirements for designated substances, exposure control plans, and controlling exposures by elimination and substitution, must be subject to greater WCB enforcement for those chemicals on the excluded list. The WCB 2020 Statistical Report shows a reduction in the Occupational Hygiene Sampling Activity to 112 samples from 146 in 2019.[8] This is attributed to the COVID-19 pandemic. Now that work activities have resumed, we hope to see an increase in sampling activity in 2023. Unfortunately, sampling

activity is unreported in the 2021-2023 statistical reports.

5. The OELRC should use the “As Low as Reasonably Achievable” (ALARA) principle.
6. The BCFED recommends that -the WCB fund the UNBC lab.
7. The BCFED recommends implementing an external working group to review the Occupational Exposure Limits (OELs) annually. The group, which existed from 1992 to 1998, comprised the WCB, occupational hygienists, researchers, employers, and labour.

The BCFED believes that while the WCB’s preferred method is to maintain current OEL levels, employers, professionals, manufacturers, and the WCB will not make changes, and workers will continue to be exposed to dangerous levels of chemicals.

The BCFED would like to remind the WCB of its duty to ensure a robust and ongoing review process of the ACGIH TLVS.

Under Section 115 of the *Workers Compensation Act* (WCA), the Board has a general duty to conduct reviews of its regulations, including ongoing reviews of the ACGIH TLVs:

> The Board must undertake a process of ongoing review of and consultation on its regulations to ensure that they are consistent with current workplace practices, technological advances and other changes affecting occupational health and safety and occupational environment.[9]

Year after year, the list of excluded chemicals grows mainly due to the lack of validated sampling methods for the lower ACGIH levels. For years, the BCFED has consistently recommended in many submissions a need to solve this problem to protect workers from chemical exposures better.

Therefore, we are delighted about the agreement between the WCB and the University of Northern BC (UNBC) to provide sampling and analytical capabilities to assess lower levels of exposure. At the last pre-consultation meeting on the TLVs, an update on UNBC's lab accreditation efforts was provided. Progress is being made as the UNBC lab expands the number of chemicals they can analyze. We heard there are challenges to obtaining funding to develop and validate methods, which can take years.

Recommendations

Therefore, the BCFED strongly urges the Board of Directors to improve funding for the UNBC lab so that testing and analysis methods can continue and expand in BC.

Conclusion: Part 5

The BCFED takes this opportunity to express our concern regarding the lack of pre-consultation sessions to review the ACGIH TLVs. Previously, the stakeholders met twice a year to review and discuss the new and revised TLVs. The pre-consultation provided an excellent opportunity to understand stakeholder concerns, the system of classifying chemicals, and the health impacts on workers. The pre-consultation sessions are an educational opportunity.

The BCFED strongly urges the Policy Regulatory and Research Division to resume the pre-consultation sessions for the review of the ACGIH TLVs.

The BCFED is pleased to have participated in the consultation for these amendments to the list of the WCB OELs, and we urge the WCB to seriously consider and implement our proposed amendments.

[1] https://www.acgih.org/science/tlv-bei-guidelines/tlv-chemical-substances-introduction/

[2] https://www.chemscape.com/blog/occupational-exposure-limits-in-canada

[3] https://www.worksafebc.com/en/law-policy/occupational-health-safety/searchable-ohs-regulation/ohs-policies/policies-part-05

[4] https://www.worksafebc.com/en/law-policy/occupational-health-safety/searchable-ohs-regulation/ohs-guidelines/guidelines-part-05#EL_Table

[5] https://pmc.ncbi.nlm.nih.gov/articles/PMC5644973/#:~:text=In%20September%202016%2C%20the%20U.S.,

[6] https://www.carexcanada.ca/burden-of-occupational-cancer-in-canada/

[7] https://www.cdc.gov/niosh/topics/ocb/default.html

[8] https://www.worksafebc.com/en/resources/about-us/annual-report-statistics/2020-stats/2020-stats?lang=en

[9] https://www.worksafebc.com/en/law-policy/occupational-health-safety/searchable-ohs-regulation/workers-compensation-act/part-2-occupational-health-and-safety#SectionNumber:Part2Div2Sec17