

Guidance for safely managing unregulated substance exposures in supportive housing and emergency shelters

Keywords: drugs, smoke, dermal, inhalation, overdose, drug poisoning, heroin, methamphetamine, cocaine, fentanyl, illicit substance, illegal substance.

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Supportive housing and emergency shelters provide housing and on-site support services for people who are at risk of becoming unhoused. These support services can take many different forms, with a range of workers who perform a variety of duties. This guidance offers education and knowledge for people who manage supportive housing and their health and safety teams to assess risk in buildings, and control measures that can lower the risks of worker exposure to unregulated substances. This document assumes that some tenants and program participants will continue to smoke or otherwise use unregulated substances indoors for various reasons. It does not apply to Overdose Prevention Sites (OPS) or Overdose Prevention Units (OPU) on housing sites, as these have their own separate guidance. It is also specific to unregulated substances exposures: other hazards, such as bloodborne pathogens or violence, are not covered, and will require separate risk assessments. Exposures to unregulated substances are an emerging area of science and knowledge – as new evidence is generated, best practices and guidance may change. This document was created based on the best available evidence at the time of publication.

Exposures to unregulated substances may vary both between sites and within sites over time. Preventing and managing these exposures should be tailored to the needs of each specific location. Workplaces must always follow relevant regulations and legislation: Depending on the setting, separate or additional requirements may apply, such as operational, contractual, or municipal requirements. Ensuring worker health and safety in supportive housing can be a challenge due to overlapping jurisdictional mandates, such as:

- [Residential Tenancy Act](#)
- [Community Living Authority Act](#)
- [Public Health Act](#) and orders
- [Ministerial Order M488](#)
- [Public Health Bylaws Regulation](#)
- Contract requirements from funders/granting agencies
- [UN Declaration on the Rights of Indigenous Peoples](#) and the [BC Declaration on the Rights of Indigenous Peoples Act](#)
- [Workers Compensation Act](#)
- [Occupational Health and Safety Regulation](#)

This document was developed by the Occupational Unregulated Substance Exposure Committee, which includes membership from WorkSafeBC, BC Centre for Disease Control, BC Housing, Cool Aid Society, PHS Community Services Society, Our Place Society, Health Authorities, and the Provincial Occupational Health and Safety Council, to help guide employers with respect to their obligation to ensure worker health and safety.

Disclaimer: This document is designed to be read in full before any risk assessment or control measures are enacted in the workplace. Risk assessment is complex, and these controls can have unintended downstream effects. This guidance is also not a “checklist” whereby implementing all controls listed here will completely prevent exposure in all circumstances – always consult with your health and safety team, workers, joint health and safety committee, and, if necessary, Qualified Person in hazard management. While this document discusses applicable legislative and regulatory requirements for workplaces, it is intended as a best practice guide rather than prescriptive regulation.

A glossary of terms used in this document is in Appendix I.

Important contacts for more information

For workers requiring health and safety assistance

- Refer to internal policies and procedures for first aid questions or concerns
- Contact your manager/supervisor, health and safety representative/committee, and/or union representative for broader health and safety questions or concerns

WorkSafeBC Prevention Information Line for health and safety assistance:

- For more information: [Health and Safety Assistance, WorkSafeBC](#) and [Unregulated Substances](#)
- Phone: 1-888-621-7233
- Hours of Operation: Monday to Friday, 8:05 a.m. to 4:30 p.m.
- See “Appendix IV: Working with WorkSafe BC”

[Community Society Services Health and Safety Association of BC](#)

- Available to all employers in community and social services sector
- Phone: 604-601-3114
- Email: healthsafety@csshsa.ca

For questions regarding this guidance

- Contact the harm.reduction@bccdc.ca for more information.

Exposure to unregulated substances

Exposures to unregulated substances (such as illicit fentanyl, methamphetamine, and crack cocaine) may occur when others are preparing or using substances. Workers may contact unregulated substances while performing their regular duties by breathing them in (inhaling) or from touching the substances or surfaces with their bare skin (dermal exposure). These exposures may occur during private room entries or in communal areas such as shelter areas, day rooms, hallways, employee only areas, offices, and lounges.

Everyone has a role to play in understanding and managing exposures to unregulated substances: See Appendix IV “Working with WorkSafe BC” for more information on roles and responsibilities, relevant legislation, and WorkSafeBC inspections.

Unintentional exposures from the inhalation of unregulated substances have a very low risk for drug poisoning (overdose). Even though the risk of an acute overdose from casual or second-hand exposure to fentanyl is extremely low, precautions remain important because other harms may be possible in the short term and/or from chronic exposure to unregulated substances. For more information see the [BCCDC FAQ](#).

Workers can be exposed to unregulated substances in different ways, depending on how the substances are being consumed by the people around them.

- Air (inhalation):
 - Indirect or secondary inhalation of smoke can occur when a person is near someone who is smoking unregulated substances.
 - Particles on surfaces can also cause inhalation exposures if particles are disturbed (made air borne) and inhaled.
 - Rarely, powders may become airborne which can lead to inhalation exposures to workers.
- Surfaces:
 - Substances can unintentionally be spilled on surfaces during use or may be placed there intentionally (such as when someone is insufflating, or snorting/inhaling them through the nose).
 - When someone smokes a substance, or “cooks” it by heating the substance to liquify it before injection, smoke can settle onto surfaces. (note: substances mixed in cold water and not heated would not be considered “cooked”).
 - Some substances can get absorbed into your skin which can happen when touching substances or contaminated surfaces.
 - If you touch contaminated surfaces or unregulated substances, then touch your mouth or eyes without washing your hands or changing your gloves, the substances can be absorbed through the mouth or eyes. Similarly, if you do not wash your hands before you eat or eat while wearing contaminated gloves, you could ingest unregulated substances.
- Other:
 - There is the risk of needle stick injury if a used needle is not disposed of properly, resulting in a worker having to handle the needle for purposes of safe disposal.

Exposure control plans (ECPs) are an important part of a workplace’s health and safety program. These describe how workers will be protected from occupational exposures and includes information on the hazard

and associated controls. All workers on site must be provided information about potential hazardous exposures in their workplace.

Sharing hazard information with first responders, contractors, and other workers not employed by the housing site

All workers who come to a site, regardless of who employs them, have a right to know about hazards in the workplace including potential exposures to unregulated substances. In many cases, this can be communicated during an on-site orientation, or during building sign-in. However, in the case of emergency responders, there may not be time for a formal orientation or process. When making calls to 911, always let the call-taker know that the site is a supportive housing site: first responders likely already know the hazards that are generally present at supportive housing and can enact their internal protocols for personal protective equipment (PPE) and other hazard preparations. Where feasible, other steps may be taken to reduce exposure for first responders, such opening windows/doors to improve ventilation as appropriate and safe to do so.

Resources for People Who Use Substances

Toxic drugs remain the main driver of the drug poisoning emergency. Harm reduction aims to keep people safe and minimize death, disease, and injury from unregulated substances. The evidence shows harm reduction works and has many benefits for people who use substances, their families, and communities. Withdrawal management and Opioid Agonist Therapy (OAT) can reduce the risk of drug poisoning and provide options for people that reduce the risk of harms associated with the toxic drug supply. Housing workers can help facilitate access to harm reduction services, health and social services, withdrawal management, and OAT.

Some resources include:

- BCCDC Harm Reduction Services (towardtheheart.com)
 - BCCDC's towardtheheart.com website offers resources for people who use substances and those who support them. You can find up-to-date training links for naloxone use, drug alerts, harm reduction strategies, and peer work and engagement.
 - Harm reduction involves a range of support services and strategies to empower and support people to be safer and healthier. Some examples include:
 - [Supply distribution](#) and recovery programs such as for needles
 - Substitution drug therapies such as methadone for heroin
 - [Take Home Naloxone program](#)
 - Supervised consumption sites and Overdose Prevention Sites for people who use substances

- Outreach and education services to encourage safer behavior
 - Peer support programs that improve their quality of life and gaps in services
 - Impaired driving prevention campaigns
- [Help Starts Here](#)
 - HelpStartsHere.gov.bc.ca is a British Columbia government website that serves as a central directory for mental health and substance use supports. It provides a search tool to find over 2,600 publicly funded and non-profit services across the province, along with articles, information, and resources to help individuals find the support they need.
- [Opioid Treatment Access Line](#)
 - The Opioid Treatment Access Line makes it faster and easier to access life-saving medication that prevents withdrawal symptoms and reduces the risk of overdose, and to get connected to support that same day.
 - Get help to prevent withdrawal symptoms. Start your new path today. It's free and confidential.
 - 1-833-804-8111
 - Open every day from 9 am to 4 pm across BC.
 - [More information on OAT](#)
- [24/7 Addiction Medicine Clinician Support Line](#)
 - The 24/7 Addiction Medicine Clinician Support Line provides telephone consultation to physicians, nurse practitioners, nurses, midwives, and pharmacists who are involved in addiction and substance use care and treatment in British Columbia. The Support Line will connect these health care providers to an Addiction Medicine Specialist who has expertise and knowledge in addiction medicine (including emergency, acute, and community care). Consultation can include support in screening, assessment, treatment and management of substance use and substance use disorder(s).
 - To call the 24/7 Addiction Medicine Clinician Support Line and speak to an Addiction Medicine Specialist, call 778-945-7619.
- [More information on FNHA recovery services and treatment centres](#)
 - In British Columbia, the First Nations Health Authority funds 9 residential treatment centres through the National Native Alcohol and Drug Abuse Program (NNADAP). These treatment centres offer a variety of cultural and clinical interventions and support for First Nations in BC. Services are offered to males, females, youth (Nenqayni Wellness Centre) and families. Services offered at treatment facilities vary but overall include services to clients with physical disabilities, concurrent disorders, clients on Opioid Agonist Therapy, family treatment, couples counselling, pregnant women, and clients on psychoactive medications.

How Risk is Assessed for Exposure to Unregulated Substances

Risk assessment not only helps a site identify risks but is also useful in determining and prioritizing controls and developing workplace procedures. A risk assessment should be performed by a qualified person and involve the workers (especially those who are performing the tasks being evaluated) and representatives from the Joint Health and Safety Committee. WorkSafeBC accepts that a qualified person is a person (or a group of persons) who is knowledgeable of the work, the hazards the work presents, and the means to control the hazards, through education, training, and experience. Workers and Joint Health and Safety Committee members will have insights and experiences that can help a qualified person better understand the risks being evaluated, and will be critical in helping determine which controls are reasonable and practicable. Union representatives, where present, may also provide valuable insights during risk assessment.

Although some general exposure trends can be found between sites (see “Generalized risk assessment from 2024-2025 sampling campaign” below) the risk of unregulated substance exposures will vary between sites and over time. This can be due to weather conditions, differences in substance use policies and the enforcement of those policies, differences in the physical building characteristics and layout, the time of day, month, or year, and how those can impact substance use trends, changes in occupancy, etc. Therefore, a risk assessment for secondary exposure to unregulated substances should be site specific and consider the following:

- Space considerations:
 - Types of spaces where unintentional exposure may occur; and,
 - Factors that could impact the exposure risk posed, such as: room size; the number of entries/exits; the likelihood of smoking occurring in the space and adjacent spaces (including considering spaces near indoor OPS, or those that have windows which open near outdoor OPS); effectiveness of ventilation (natural and mechanical); etc.
 - For example: The concentration of airborne unregulated substances in the air will be lower following one person smoking in a large common space versus one person smoking in a bathroom. However, this spreading effect can lead to exposures throughout large spaces, such as in emergency shelters, even if there are a small number of people using substances.
- Locations that residents and visitors may have access to that can conceal unregulated substance-use and/or may not have regular monitoring (e.g. washrooms, stairwells, hallways, etc.) which can lead to unexpected exposures.
- Tasks being performed by workers (length of task, frequency of task, location of task, and how these factors tie into how likely someone is to be exposed to unregulated substances)

- Regular tasks (such as cleaning and maintenance) and emergency tasks (such as medical response) should be considered separately
- Which substances are currently in the unregulated supply in your region, and how they are being used. The [BC Centre on Substance Use publishes a dashboard](#) that breaks down results of drug testing by region. It is recommended these data are reviewed annually or more frequently if desired.
- Employer's policies, procedures, and training related to minimizing exposures to unregulated substances.
- Routes of unintentional exposure, such as [inhalation](#), [skin](#), and inadvertent ingestion, which relate to worker exposure risk.
- Workers with pre-existing conditions who may be at greater risk of adverse reactions to unregulated substance exposures.
- Workers who are new, young, or in precarious employment who may not be aware of the hazards from unregulated substances, nor the policies and procedures related to unregulated substances.
- Frequency of resident use of unregulated substances indoors, and locations of use. Sites that have little to no substance use indoors will have significantly lower risk than those with frequent indoor unregulated substance use. Public spaces (corridors, lounges, etc.) where no substance use occurs that are adjacent to resident suites where substance use does occur will still have some exposure risk if smoke/particulates escape from resident suites. Resident suites where unregulated substance use is occurring are likely to have high risk for exposure. Housing workers are often a good resource for knowing which suites may be at risk, but workers should always be prepared for unanticipated exposure.

There are many tools that can be helpful in performing risk assessment, such as:

- WorkSafe BC's [Assessing Risks](#)
- Canadian Centre for Occupational Health and Safety [risk assessment](#)
- BC Federation of Labour's [health and safety centre](#) offers courses on risk assessment
- BC General Employees Union also offers a [risk assessment course](#)

There are many ways to perform a risk assessment and there is no specific tool that is required for use. Your workplace may already have a policy or procedure for performing risk assessment. Risk assessments should be written and generally follow these steps:

1. Identify the tasks and locations that present an unregulated substance exposure risk. This could include tasks like “sitting in the office”, “wellness checks”, “food delivery”, etc.
2. Break down each task into its individual steps, including where the job is performed, who performs the job, and how long it takes.
3. Identify the potential exposure route.

4. Identify the potential unregulated substance exposure risks within each part of the task. Some of these might be location specific or related to characteristics of the building, as described above in the “special considerations” section.
 - a. See also: “HVAC and Risk Assessment”; “Generalized risk assessment from 2024-2025 sampling campaign”; and “Tools for Pre-Task Risk Assessment”
5. Determine the risk level for each part of the task. Risk is the combination of probability (the likelihood an exposure will occur) and severity (how high the exposure level may be). In other words, Risk = probability x severity; there is information in the tools listed in the paragraph above on different ways to rate the probability and severity.
6. Select controls using the hierarchy of controls and implement controls for those exposures that are the highest risk. See the “Generalized risk assessment from 2024-2025 sampling campaign” and “Hierarchy of Controls” section for more information on understanding and implementing controls.
7. Document, communicate, and review controls. Monitor the controls to ensure they remain effective.
8. Communicate the results of the risk assessment to workers, supervisors, and others who may be impacted by the results of the risk assessment.
9. Perform the risk assessment again with the new controls in place: repeat the risk assessment as needed (see below).

Risk assessment is not a one-time process: the risk will change as buildings and circumstances within them change and should be repeated after controls/procedures are put in place or modified. In general, a workplace will perform a preliminary risk assessment, implement controls based on the results of the risk assessment, then repeat assessing risk and implementing controls until either the risks of exposure are all eliminated or minimized.

The risk assessment described in this section is used to help determine risks, controls, and procedures. A pre-task risk assessment is performed in the moment by any worker when a potentially hazardous situation unexpectedly occurs (See “Tools for Pre-Task Risk Assessment” section). The general risk assessment will inform the exact procedures workers should follow when they perform a Pre-Task Risk Assessment (PTRA). For example, the risk assessment might identify that windows in resident spaces cannot be opened enough to create sufficient natural ventilation in an emergency. Therefore, the PTRA should not include a “natural ventilation” step.

HVAC and Risk Assessment

The building’s HVAC system is a critical component of controlling the risks of airborne exposures to unregulated substances. A full evaluation of your building’s HVAC system should be part of the risk assessment process, as HVAC systems and the way they interact with other building characteristics (including amount of

exposure present) can be complex to understand. An evaluation can be done by your existing HVAC team/technician, and/or a qualified person.

The “Engineering Controls” section within the “Hierarchy of Controls” section of this document contains more information on evaluating HVAC systems, as does Appendix V (“Technical Information on Ventilation”).

Generalized risk assessment from 2024-2025 sampling campaign

Between 2024 and 2025, an air sampling campaign was conducted at selected supportive housing and emergency shelter sites in B.C. to assess potential occupational exposure to unregulated airborne substances. The results identified common building characteristics and work activities associated with an increased likelihood of exposure. Tables 1-4 are intended to serve as a practical guide to support the identification of building characteristics and conditions that are more commonly associated with higher exposure risk. They can be used to help prioritize areas for further review, assessment, and risk management planning across sites. While Tables 1-4 provide an overview of potential risk indicators, they are not a substitute for a site-specific risk assessment. Rather, they are intended to complement the assessment process by supporting a more focused and informed evaluation of site-specific conditions. They are also not for emergency situations: see “Tools for Pre-Task Risk Assessment” for in-the-moment risk assessments.

Recommended control measures linked to the identified risks are described in more detail in the “Hierarchy of Controls – Managing/Controlling Exposure and Exposure Risks” section and related subsections. The controls listed are not exhaustive, and additional or alternative measures may be appropriate depending on site-specific conditions. The personal protective equipment (PPE) identified represents the minimum level of protection that would be expected in a workplace with risk factors similar to those listed. Where appropriate, sites may choose to conduct additional air sampling with their risk assessment to determine whether a different level of protection is sufficient to protect workers (see “Sampling and Risk Assessment” section).

The following two activities are generally considered high-risk: working within residential suites where residents are known or suspected to regularly use unregulated substances, and servicing/cleaning PTAC (Packaged Terminal Air Conditioner) units in suites where known or suspected substance use has regularly occurred. PTAC units are in-unit heaters/coolers that have internal filters which require periodic cleaning. Workers may be exposed to significant levels of unregulated substances when cleaning these units. BC Housing is developing a procedure for minimizing risk while cleaning PTAC units: Interim guidance is offered in Appendix VI (“Cleaning Guidelines”).

Table 1: Risk Rating Guide for Employee Only Areas

Important notes: the information below was partially determined based on results from the 2024-2025 housing sampling campaign. This table is a summary and does not provide the necessary details for a complete risk assessment and controls program: for example, it does not integrate risks from specific job tasks. For more information on implementing controls, see “Hierarchy of Controls” section. PPE in this table is based on the general guidelines presented in this document and may not be appropriate for every scenario: sites can establish their own site-specific protocols through risk assessment (see “Risk Assessment” and “Hierarchy of Controls – PPE” section of this document).

Risk level and Identifier of Risk Level	Possible controls
High Risk - Employee only areas fully open to resident/common spaces (i.e. not enclosed, no counter barriers) where people use unregulated substances - Same floor and adjacent to residential suites or shelter beds - Adjacent to indoor smoking areas - Adjacent to injection or inhalation OPS - Where service windows exist: Windows frequently opened to provide services where smoking regularly occurs “Poor” or “low” performance HVAC: see "HVAC Performance Assessment" section	Engineering, high/med risk: - Relocate workers to fully separated employee only spaces - Fully enclose employee only areas and make necessary adjustments to the HVAC and air flow - For small office with just a doorway to communicate with clients, use dutch-door system with curtain wall air flow to protect employee only area air space - Install and use security windows or quick-close/snap-close window systems - Isolate the employee only areas by installing doorways to separate adjacent residential suites or shelter beds. May need to adjust HVAC and check fire safety - Relocate any OPS away from employee only areas. Consider enclosing OPS and introduce direct exhaust to vent out contaminants
Medium Risk - Employee only area partially enclosed, counters open to common spaces, or no ceiling, and are within/adjacent to common areas where people use unregulated substances - Same floor and adjacent to limited number of residential suites or shelter beds	Engineering, all risk levels: Evaluate HVAC systems and check that it is fully operational and any damage is repaired (ductworks, grills, vents, etc.)

• “Low” or “moderate” performance HVAC: see “HVAC Performance Assessment” section	• Work with a Professional Engineer with specific expertise in HVAC systems to understand the air flow and determine where and how to implement controls • Install air scrubbers/air filters • If windows are opened to enhance natural ventilation, ensure there is no smoke entering the employee only space before opening windows, and that existing air systems won’t be negatively affected by opening windows (such as room pressurization, HVAC systems, etc.) • Ensure HVAC systems are inspected, serviced, and maintained in accordance with manufacturer specifications, industry standards, and regulatory requirements • Offer service delivery (such as medical services) in dedicated spaces where workers can easily control access (such as portables or dedicated and enclosed offices) Engineering/administrative, all risk levels: • Determine what, if any, filtration is provided by AC/HVAC units and clean/replace filters as necessary PPE, high/medium risk: • Nitrile gloves • Half face respirator with P100 filters and OV cartridges PPE, all risk levels: • All workers who may be exposed to unregulated substances should be trained in appropriate respiratory protection for emergency response/unintentional exposures: see PPE section of the document
Low Risk • Fully enclosed areas (walls, ceiling), minimal opening to communicate, away from any smoking activities • Isolated from smoking areas, residential suites or shelter beds • Separate building or isolated from rest of building • Dedicated employee only space ventilation that provides clean, fresh air • “Moderate” or “high” performance HVAC: see “HVAC Performance Assessment” section	

Table 2: Risk Rating Guide for Common/Shared Spaces

Important notes: the information below was partially determined based on results from the 2024-2025 housing sampling campaign. This table is a summary and does not provide the necessary details for a complete risk assessment and controls program: for example, it does not integrate risks from specific job tasks. For more information on implementing controls, see “Hierarchy of Controls” section. PPE in this table is based on the general guidelines presented in this document and may not be appropriate for every scenario: sites can establish their own site-specific protocols through risk assessment (see “Risk Assessment” and “Hierarchy of Controls – PPE” section of this document).

High Risk - Smoking in this area is regular, common, consistent “Poor” or “low” performance HVAC: see "HVAC Performance Assessment" section	Engineering, all risk levels: - Open a designated smoking space/OPS outdoors, following the appropriate guidelines - Evaluate HVAC systems and check that it is fully operational and any damage is repaired (ductworks, grills, vents, etc.) - Work with a Professional Engineer with specific expertise in HVAC systems to understand the air flow and determine where and how to implement controls
Medium Risk - Smoking in this area is periodic or time-to-time “Low” or “moderate” performance HVAC: see "HVAC Performance Assessment" section	Administrative, high/med risk levels: - Install signage designating smoking and non-smoking areas - Develop and enforce smoking policies; monitor and enforce no-smoking areas with clients/residents where appropriate - Where smoking occurs near windows, put signage on windows to prevent them from being opened, and/or lock windows so they cannot be opened (if practicable)
Low Risk - Smoking in this area is rare - Client non-compliance occurs rarely with no smoking policy - Minimal to no indoor smoking in common areas - Walkways and common areas are outdoors (i.e. motel style) “Moderate” or “high” performance HVAC: see "HVAC Performance Assessment" section	Administrative, all risk levels: - Follow the guidance in the “resources for people who use substances” and the “providing care for people with lived and living experiences of substance use” sections to best provide care to residents - Install motion sensors, timers, or smoke detectors to help alert workers that smoking may have occurred in a space before they enter

	- Always follow site-specific room entry protocols before entering a space, which may include Pre-Task Risk Assessment (PTRA) PPE, high/medium risk: - Nitrile gloves - Half face respirator with P100 filters and OV cartridges PPE, all risk levels: - All workers who may be exposed to unregulated substances should be trained in appropriate respiratory protection for emergency response/unintentional exposures: see PPE section of the document
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Table 3: Risk Rating Guide for Resident Suites/Emergency Shelter Spaces

Important notes: the information below was partially determined based on results from the 2024-2025 housing sampling campaign. This table is a summary and does not provide the necessary details for a complete risk assessment and controls program: for example, it does not integrate risks from specific job tasks. For more information on implementing controls, see “Hierarchy of Controls” section. PPE in this table is based on the general guidelines presented in this document and may not be appropriate for every scenario: sites can establish their own site-specific protocols through risk assessment (see “Risk Assessment” and “Hierarchy of Controls – PPE” section of this document).

High Risk in suites with known or expected substance use	Engineering: Open windows to enhance natural ventilation – ensure there is no smoke entering from outside before opening windows, and that existing air systems won’t be negatively affected by opening windows
Low Risk in suites and individual shelter spaces where unregulated substance use is not expected	

Engineering/Administrative:

- Ensure ventilation, such as exhaust fans in washrooms and kitchens, are well-maintained and encourage residents to utilize them
- Determine what, if any, filtration is provided by in-suite AC/HVAC units and clean/replace filters as necessary

Administrative:

- Provide services outside of resident suites, ideally a dedicated spaces for providing services which are isolated from common areas
- Follow the guidance in the “resources for people who use substances” and the “providing care for people with lived and living experiences of substance use” sections to best provide care to residents
- Split higher risk tasks among multiple workers to reduce individual exposure duration
- Install motion sensors, timers, or smoke detectors to help alert workers that smoking may have occurred in a space before they enter
- Always follow site-specific room entry protocols before entering a space, which may include Pre-Task Risk Assessment (PTRA)

PPE, high risk (substance use expected):

- Half face respirator with P100 with OV cartridges
- Nitrile gloves

PPE, low risk (substance use not expected):

- All workers who may be exposed to unregulated substances should be trained in appropriate respiratory protection for emergency response/unintentional exposures (perform PTRA): see PPE section of the document

Table 4: Risk Rating Guide for Servicing Packaged Terminal Air Conditioner (PTAC) Units

Important notes: the information below was partially determined based on results from the 2024-2025 housing sampling campaign. This table is a summary and does not provide the necessary details for a complete risk assessment and controls program: for example, it does not integrate risks from specific job tasks. For more information on implementing controls, see “Hierarchy of Controls” section. PPE in this table is based on the general guidelines presented in this document and may not be appropriate for every scenario: sites can establish their own site-specific protocols through risk assessment (see “Risk Assessment” and “Hierarchy of Controls – PPE” section of this document).

High Risk: PTAC servicing and suite cleaning without the use of additional controls linked to significant airborne unregulated substance exposures

Administrative/PPE:

- Follow the guidelines outlined in the “Cleaning” appendix
- Suite to be vacant when servicing the PTAC unit, preferably empty but not always possible

Sampling and Risk Assessment

Sites wishing to perform air sampling should work with a qualified person and with their Health and Safety teams and committees, as sampling for unregulated substances presents significant challenges. In supportive housing environments, the variable and unpredictable nature of unregulated substance use makes it difficult to reliably characterize worker exposure. Substance composition, consumption methods, and use patterns can change rapidly, and consumption events are often brief, sporadic, and dispersed. In addition, the unregulated drug supply continues to evolve, with new substances and analogues emerging frequently. Because of these variables and frequent changes, point-in-time workplace monitoring conducted at supportive housing sites may not reflect future worker exposure conditions.

Given these limitations, employers should generally start by basing their risk assessment on identified exposure risk factors, sampling data from comparable workplaces, and an assessment of existing controls. Employers should implement all reasonable and practicable control measures, consistent with the hierarchy of controls and the guidance provided in this document.

While there are some circumstances where air sampling may be required, the need for sampling can depend on the level of risk, availability of comparable data (such as existing BC Housing data), and other characteristics of the supportive housing site. The Occupational Health and Safety Regulation requires employers to conduct air sampling when there is a reasonable possibility that workers may be exposed to airborne contaminants above an applicable exposure limit (guidance on exposure limits can be found in Appendix III). If, despite the implementation of all reasonable controls, workers continue to report symptoms consistent with exposure to unregulated substances, or if new information suggests that exposures may be occurring at levels of concern, WorkSafeBC may require the employer to conduct air monitoring in order to evaluate worker exposures or to support further control decisions. An operator may choose to do sampling if a worksite wishes to tailor PPE requirements to their specific site (rather than use the generalized suggestions); if the risk level is uncertain based on building characteristics or risk assessment; and/or if a site wishes to verify the effectiveness of controls put in place. If sampling is performed, workers and the joint health and safety committee must be informed of the results of the sampling, as per OHS regulation.

Tools for Pre-Task Risk Assessment

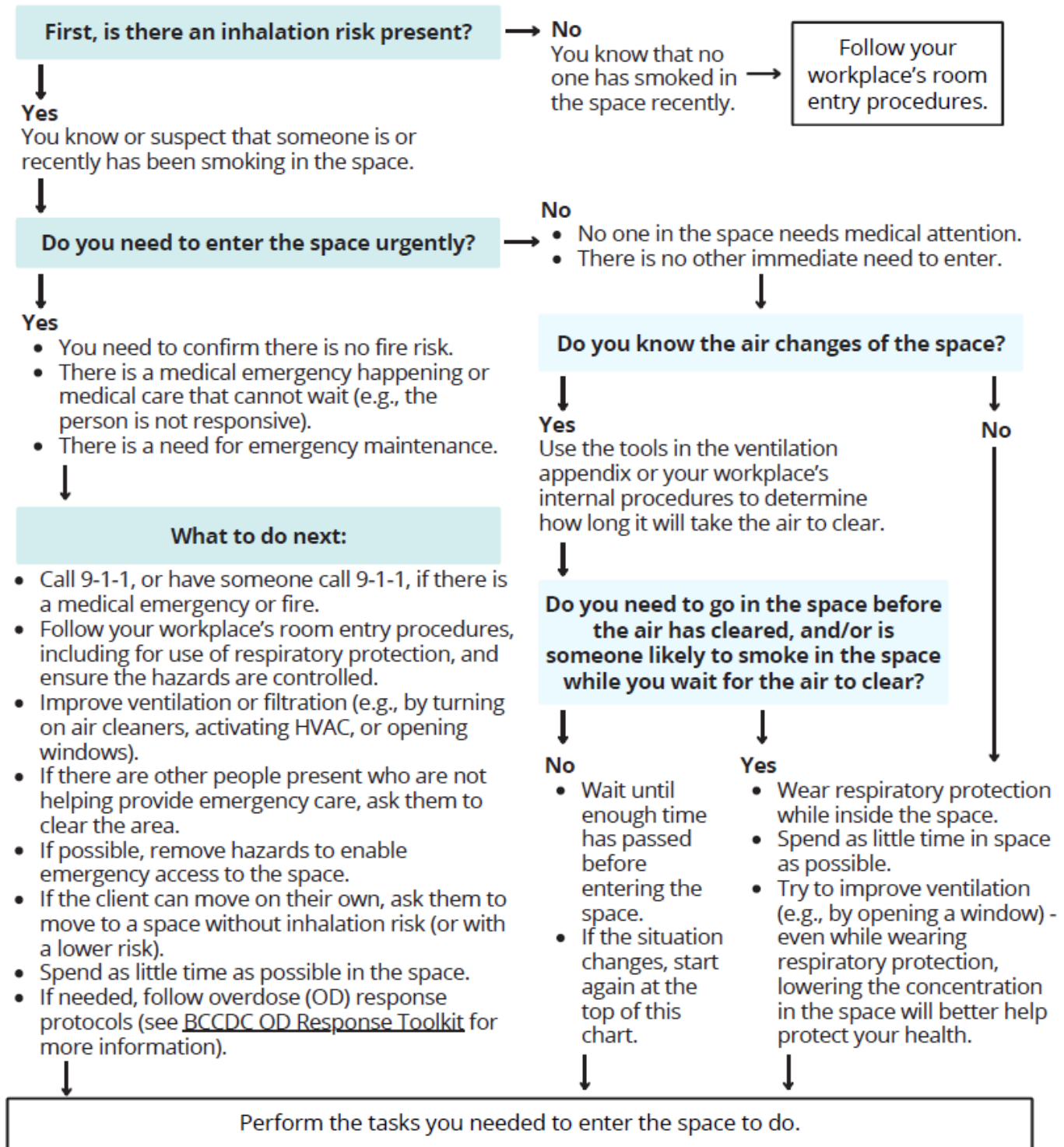
Written safe work procedures developed to protect workers from exposure to unregulated substances should incorporate a pre-task risk assessment which can assist workers to select appropriate control measures based on site specific conditions. A pre-task risk assessment (PTRA) can help workers feel more empowered to make in-the-moment decisions to protect themselves and others when performing their regular work tasks, or when responding to emergencies during a confirmed or suspected smoking event. All workers should be trained on PTRA. Sites should create their own PTRA procedures: General risk assessments should be performed to help inform the site-specific PTRA.

The flow chart below can be used by any worker to help them quickly assess a situation. It has been adapted from the PHSA Controlled Substances Risk Assessment Tool with a focus on exposures to unregulated substances in supportive housing and emergency shelters. Note that an exposure is not the same as a drug poisoning event. Whenever someone smells or sees smoke, they should always confirm that there is no fire actively present before proceeding.

A higher level of respiratory protection (i.e., full face or PAPRs) may be required where workers are expected to enter and/or remain in areas with active smoking of unregulated substances and where other effective controls are not in place or cannot reasonably reduce exposure. The decision on what respiratory protection an employer should have available for workers should be based on a site-specific risk assessment, considering the task, exposure conditions, duration, existing engineering and administrative controls, and available exposure monitoring data. Additionally, workers complete pre-task risk assessments to inform their decision to implement controls, including what type of respirator is required, prior to any interaction. Respiratory protection is at the bottom of the hierarchy of controls, and other more effective controls should always be put in place before respiratory protection is used. Respiratory protection is less effective than other controls because it does not address the hazard at its source and depends on consistent and correct use. Consideration must also be given to the fact that not all workers may be able to use respiratory protection effectively.

More information on developing room entry procedures is in the “Administrative Controls” subsection of the “Hierarchy of Controls” section.

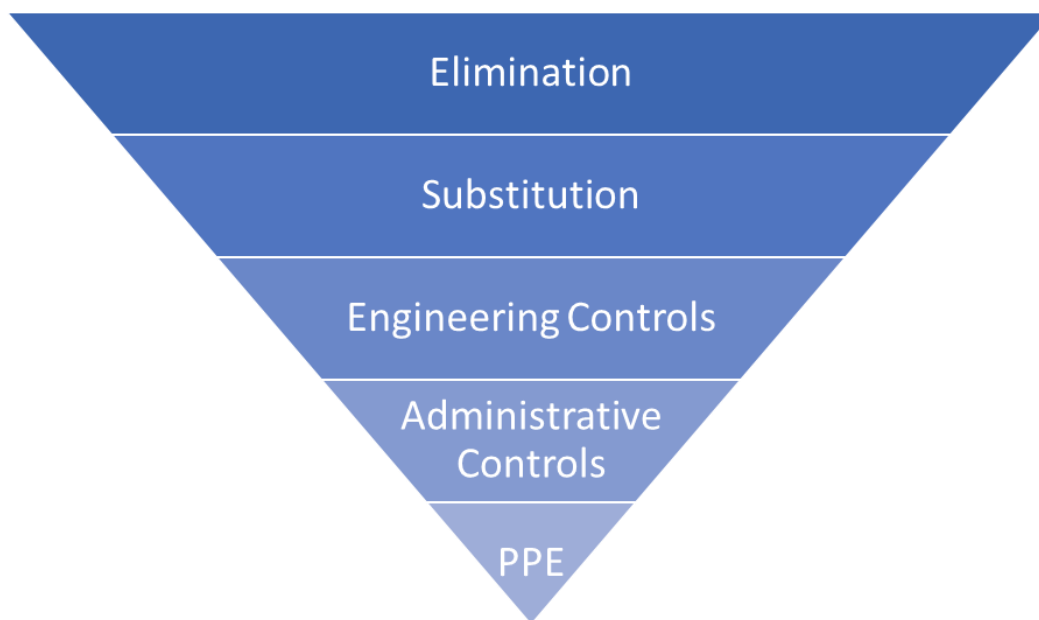
Pre-Task Risk Assessment (PTRA) Tool for Encountering Inhalation Exposures



Hierarchy of Controls – Managing/Controlling Exposures and Exposure Risks

The hierarchy of controls is a method of determining which actions will best control exposure risks. When controlling a hazard in the workplace, selection of controls should be based on the Hierarchy of Controls. Control measures include: 1) elimination, 2) substitution, 3) engineering controls, 4) administrative controls, and 5) personal protective equipment (PPE), with elimination being the most effective control measure and PPE being the least. While the most effective options should be prioritized, measures will often be required from multiple levels in the hierarchy of control to effectively reduce the risks posted to workers at these sites.

When developing or implementing controls, consult with workers and the Joint Health and Safety Committee to find solutions that are practical and feasible. After implementing a change, give workers the opportunity to provide their feedback. Engagement with unions, where present, may also be helpful when planning and implementing controls.



Refer to WorkSafeBC [for more general information](#) on controlling risk and the hierarchy of controls.

Elimination and Substitution

Eliminating worker exposure to unregulated substances is the most effective control in the hierarchy. Although substance use may not be permitted in communal areas in most housing settings, unintentional exposures may still occur, and thus the exposure hazard cannot be completely eliminated. This document exists under the assumption that some tenants and program participants will continue to smoke unregulated substances indoors. Addiction, dependence, physical limitations, and immediate need to use substances means that full elimination cannot be enforced without severe impacts on safety, housing stability, and harm reduction goals. Strict enforcement could push use of substances into more dangerous, potentially hidden locations where overdoses are harder to detect and respond to.

Currently, medical alternatives to unregulated substances for people using unregulated substances are limited and therefore substitution is not a viable workplace hazard control strategy. Housing workers can support residents who are looking for referrals to treatment and other services for cessation of substance use; see the “Administrative Controls” section for more information on supporting residents who wish to pursue these options.

Engineering controls

One of the most common engineering controls is ventilation, which can be as simple as opening windows or using exhaust fans, and as complex as HVAC installation and upgrades. Retrofitting your building with a new HVAC system may not be financially or practically feasible. However, even without retrofitting, there may be steps that can be taken to improve air quality. Work with your HVAC, building management, health and safety, and/or maintenance team to investigate which engineering controls might be available to your workplace.

The section below has some general recommendations for basic engineering controls. More advanced options are available but should only be implemented in consultation with a qualified HVAC specialist or professional engineer. Appendix V has more technical information on HVAC and ventilation, aimed at helping building managers, health and safety teams, maintenance teams, etc. have more productive conversations with qualified consultants.

Hiring a consultant can be helpful for understanding the way air flows within your building, even if you do not have an HVAC system. An HVAC technician can perform maintenance, balance the systems, and re-commission existing systems. Professional engineers have the qualifications needed to determine air changes in a space, understand airflow and pressurization, help with HVAC upgrades, and design solutions to improve air quality. They can also help you create maintenance plans and procedures for your building that will allow your internal team to perform tasks like filter changes and general system checks.

Some general guidance on working with contractors and engineering controls is below:

Working with your HVAC Contractor:

- Know that adjusting the HVAC takes time, trial, and error. It is a balance of considering energy costs, capabilities of existing systems, and worker and resident comfort (noise, temperature, drafts, etc.)
- Verify that your system is designed for the building use and design it currently has. Older buildings that have undergone many renovations may not have had the appropriate changes made to their HVAC systems over time. Systems that have not been designed around the current building configuration may require more extensive evaluation to understand how they are performing.
- Your building may have commissioning reports, balancing reports, or indoor air quality assessments that can help you understand the HVAC of your building. Obtain these reports where available and ensure they are up to date. Your HVAC contractor can help you understand the reports.
- You may not have HVAC throughout your entire building, but it is likely to be present in the hallways to adhere with fire codes.
- You may be able to increase filtration in your building either by using a higher-efficiency filter, or by using multiple filters. A qualified HVAC professional can help you determine your systems capacity.
- Work with your HVAC team or consultant to evaluate if, and where, recirculation of air is happening. Prevent the circulation of air from high-risk spaces into low-risk spaces (e.g. reduce air circulation from shared areas where smoking may occur to employee only areas where smoking does not occur).
- Work with your HVAC team to maximize fresh air intake into buildings while considering heating and cooling requirements.
- Know the location of your building's outdoor air intake(s): ensure there is no smoking of any substances near the intake (within 6 meters) or near building entrances where smoke can enter. Installing fences or other barriers like garden beds can help prevent people from smoking near intakes and entrances.
- Consider conducting a full evaluation of the HVAC system to check for deficiencies like disconnected ductwork, blocked/closed grates and grilles, etc.

Room pressurization:

- Room pressurization can be an important tool in helping keep contaminated air out of a space and/or contain contaminated air within a space. Spaces that are positively pressurized will tend to push air out of them; Spaces that are negatively pressurized will tend to draw air into them. There are many factors that affect system balance, such as use of doors and windows.
- In most residential buildings, common hallways are designed to push air into private rooms (i.e. common hallways are “positively pressurized”), but renovations, open doors and windows, and/or poor HVAC maintenance can interfere with this airflow.
- Maintaining room pressurization requires keeping air flow, intake, and exhaust at their specific states. Turning on/off fans, opening windows, or other activities can affect the pressurization balance. Ensure your workplace is following any guidance on maintaining pressurization that has been given by your HVAC team or engineer.

Windows and local exhaust/fans:

- Exterior windows and doors can be opened to enhance natural ventilation and assist in clearing smoke out of the room. Opening a window fully is best, but even a little bit helps.
- Many suites will have exhaust fans in kitchen areas, and the majority will have them in washrooms. Although these might not be strong enough to clear a large area and may take a while to meaningfully reduce the contamination in the air, they are helpful and work best when well-maintained. Ensure these are included in maintenance schedules. Reconfiguring exhaust fans so that they run continuously may help reduce overall contamination in the space, as it removes the need for occupants to turn them on/off manually. However, this may generate noticeable noise, leading occupants to keep the door closed and therefore limiting efficacy. Also ensure they are exhausting to the exterior, rather than to another interior part of the building.
- Leave any exhaust systems running as often as possible to help increase air circulation.

Air cleaners:

- Portable air cleaners can help keep air clean within a space or help clean the air faster when the air quality is poor. MERV 13 filtration is recommended as the minimum, although HEPA filtration will provide the best protection.
 - Guidance on purchasing an air cleaner can be found here: [BCCDC Fact Sheet on Portable Air Cleaners.](#)
 - Guidance on building your own air cleaner can be found here: [BCCDC Fact Sheet on DIY Box Fan Filters.](#)

- When placing an air cleaner, ensure it is somewhere that allows for good air flow and circulation – placing it against a wall or behind curtains will decrease its effectiveness.
- Tools like locking outlet covers, or placing air cleaners out of reach, can help prevent theft and tampering.
- If noise from a portable air cleaner is a concern, consider buying one that is rated for a larger space and running it on a lower setting.
- AC units likely have some amount of air filtration, but it may not be sufficient to effectively clean the air. Refer to information from the manufacturer to see what kind of filtration is offered by your AC unit, and what kind of maintenance it requires.

Maintenance of engineering controls:

- Filters should be checked at a regular interval for damage and cleanliness as part of the preventative maintenance program. Document the condition of filters to understand trends over time and to help guide the timing of the filter changes and maintenance. Damaged/dirty filters should be changed regardless of the maintenance schedule.
- Filters should be changed at least as often as required by the manufacturer's instructions for portable air cleaners, or as often as recommended by your HVAC contractor for HVAC systems. However, you may need to change them more often than this, especially for a building with a lot of indoor smoke and/or during wildfire season.
- If there are no instructions from your manufacturer, or you need to change the filters more often than the manufacturer's guidance, you can determine a reasonable air filter changing schedule by seeing how long it takes for them to become visibly brown/grey/black.
- Portable air cleaners can have the filters changed outdoors, or with a glove-bag, to help prevent unregulated substance particles from re-entering the environment.
 - Glove bag systems that can be used for filter change-out tasks are commercially available. If these systems are used, ensure you follow the manufacturer's directions for use.
 - If you are not using a glove bag to replace the filter: Wear gloves and other required PPE. Avoid bumping/disturbing the filter in a way that will release dust. Gently place the filter directly into a trash bag, tie it off, and immediately bring the bag to an outdoor trash can. If necessary, follow the "general cleaning protocols" outlined in "Appendix VI: Cleaning Guidelines" to clean where the filter goes, and the surrounding area before installing a new filter.
- Depending on the configuration of your HVAC systems, HVAC filters may become contaminated with unregulated substances: contaminated filters will require special precautions for change-outs (such as

those outlined above for portable cleaners). Discuss the system configuration and filter change procedure with your HVAC contractor.

- All HVAC systems, air filters/cleaners, exhausts, and related systems should be maintained on a set schedule and checked regularly for defects or deficiencies.

Administrative Controls

Administrative controls, such as safe work procedures can be used to prevent or control unregulated substance exposures. For more information on creating accessible and appropriate solutions when developing administrative controls, please see Appendix II (“Providing Care for People Who Use Substances”).

Workplace Layout and Furnishings:

- Avoid locating employee only spaces (e.g. offices, lunch room) near areas where smoking is likely to occur.
- Use non-porous building material and furniture where possible. For example, remove carpets throughout the building, as these can collect unregulated substance particles and be difficult to clean; In resident areas where smoking may occur, use tables and chairs that can easily be cleaned; etc.

Smoking Policies:

- Implement and consistently enforce smoking policies for your building where appropriate and practicable. A “no smoking” policy may not be enforceable for some buildings. Ensure that whatever policy is in place is feasible, considering the clientele, and can be enforced by workers. Barriers to enforcement may include:
 - People may smoke in their rooms, making it hard to identify the source of smoke.
 - Balancing worker safety with the public health needs of supportive housing and emergency shelters.
 - Moral distress surrounding evicting people who do not have alternative housing.
- Provide education and signage on why these rules are in place and how everyone can be part of worker safety. People are more likely to follow the rules if they understand why they are in place.
- Place communal gathering areas where smoking may occur to at least 6 meters away from entrances/exits and air intakes and ensure they are of sufficient size. Encourage use of designated smoking areas.

Training and procedures:

- Develop policies and safe work procedures for each individual workplace tailored to the needs of the site. Examples of policies and safe work procedures that may need to be developed include:
 - PPE use, as needed for the workers’ specific position.

- How to perform a pre-task risk assessment.
- Response to a smoke exposure (how to care for yourself or the person who was exposed; performing [emergency overdose response](#), and reporting requirements).
 - See [BCCDC Post Exposure Management Guidance](#) for more information.
- Exposure control plans in place in the workers work area (such as HVAC schedules, portable air cleaners, etc.) so that they understand what is being done to protect their health and how it works.
- On-site smoking policies.
- Room entry protocol.
- Cleaning spaces impacted by unregulated substances (see Appendix VI: Cleaning Guidelines).
- Disposal of unknown or surrendered substances.
- Overdose response and witnessed consumption, if applicable.
- Procedures relating to inter-personal interactions, such as workplace violence prevention, violence risk assessments, managing hostile interactions guidance, limit settings conversations guidance, and similar.
- Preventing and responding to needlestick injuries.
- Reporting exposures to the employer.
 - Employers/employees may also wish to register harmful exposures to unregulated substances with the [WorkSafe BC Exposure Registry](#).
- Refusal of unsafe work.
 - Workers always have the right to refuse unsafe work: if a worker has reasonable cause to believe that performing a work process would create an undue hazard to the health and safety of any person, they must not perform the job or task and must immediately notify their supervisor or employer.
- Safe work procedures are to be available in writing, and available to all workers who may need them at any time. It is also important to document the dates that people have received training in safe work procedures.
- Training on safe work procedures must be performed upon hire and whenever the procedures change.
- Use work shifts to reduce worker exposure. For example, if workers are most likely to be exposed while patrolling corridors, spread that task to multiple workers through the day so that one worker is not over-exposed.
- Develop procedures for deliveries to minimize exposures to delivery workers.
- Ensure contractors, emergency responders, and other outside workers who may enter the building for extended periods of time are alerted to possible hazards within the building, including unregulated substances exposures.
- Limit time in resident suites: When working with residents, meet with them in spaces outside of their suites, such as in dedicated medical or meeting spaces.

- Follow the cleaning procedures in Appendix VI for any spaces that may have contamination from unregulated substances, such as hallways adjacent to resident suites.

Signage:

- Install Smoke Free Facility signage inclusive of vapes, pipes, etc. Include information on where residents can access safe use spaces. Consider adding reasons for the policy to signage so residents can understand the rationale.
- Signage should be placed on control measures throughout the workplace to prevent them from being tampered with, moved, or shut down (i.e. above HVAC controls, on portable air cleaners, next to open windows, etc.)

Monitoring:

- Install cameras in communal areas wherever feasible to reduce the need for walk-arounds that may expose workers to smoke.
- Install motion sensors, timers, or smoke detectors in washrooms and residential units where feasible. These devices can help alert workers to the presence of smoke before they enter the space, allowing them to take precautions before entering such as donning PPE. For more information, review the [safer bathroom toolkit](#).
- Commercially available particulate detectors are devices that can measure particulate matter in real time. They take periodic, time-stamped measurements (usually every few minutes) of particulate matter. The data is often reported through an online dashboard that can be viewed to look at changes over time. Examples include Wynd Sentry sensors, PurpleAir Monitors, and Air Quality Eggs. These can help indicate where smoking has occurred, or where the highest levels of particulate are present. Note that particulate sensors will detect all kinds of particulate, including tobacco smoke, wildfire smoke, or other dusts. These devices will not show with 100% certainty where unregulated substance smoking is occurring. In addition, monitoring can lead to “false positives”, which can cause people to become complacent and not follow rules as closely. Monitoring particulate matter will be most useful for understanding how well an HVAC system is working, where smoking may be occurring, and/or where additional controls may be required to reduce the amount of particulates in the air.

Overdose prevention services and safe consumption sites:

- Service providers and People with Lived and Living Experience (PWLLE) navigators can provide [Episodic Overdose Prevention Services](#) (E-OPS) otherwise known as witnessed consumption on housing grounds, which moves residents outside for supervised consumption for drug poisoning prevention and response.

- Providing [overdose prevention services](#) (i.e. safe use spaces) for residents and visitors can reduce worker exposures by giving residents safer spaces to use unregulated substances. If utilizing an OPS, make it an inviting space to encourage residents to use there instead of their rooms. [Outdoor inhalation OPS](#) is an affordable and practical option for many sites.
- If no on-site options are available, direct residents to local overdose prevention site. A listing of these sites can be found on the [Toward the Heart website](#).

Room entry protocol considerations

Supportive housing and emergency shelter sites should have protocols for entering residents' suites or other places where substance use may commonly occur. Where substance use may have occurred, the following additional protocols should be considered:

Resident suites:

- Consider installing buzzers or phones in rooms to contact residents so that workers do not have to go to resident rooms.
- Review resident information or notes (such as a care/case plan, log notes, etc.) before entering the room to check for factors like potential substance use or violence risks. For more information on managing and responding to potentially violent behaviour, see WorkSafeBC resources on [workplace violence](#).
- Entry to resident suites with suspected or known substance use is associated with high risk of exposure: always follow workplace protocols before entering resident suites.
- For room entry requiring a notice period (e.g. scheduled maintenance), inform the resident(s) of how long they should not smoke in the room before room entry.
- Clearance times should be determined with the help of your health and safety team and/or a qualified person/HVAC technician.

All spaces, including resident suites:

- Always adhere to employer-specific procedures for entering rooms, which may include additional steps or PPE.
- If there is a medical emergency, perform a pre-task risk assessment (PTRA, see "Tools for Pre-Task Risk Assessment" section) and follow your workplace's medical emergency protocols. Room entry protocols should include steps for when there are other residents or guests present: this may include directing bystanders to leave the space, or to assist with the response (example: administering naloxone). Upon arrival, first responders may require that all individuals clear the space.

- Prior to entering any space where the use of unregulated substances is suspected, speak to the occupants through the door when possible, or ask occupants to stop smoking to reduce the risk of exposure, though this will not immediately reduce the airborne substance levels.
- If possible, do not enter a space until sufficient time has passed for the smoke to dissipate or be cleared from the space. Health and safety teams may be able to create guidance on how long to wait to enter a space based on information in the “Engineering Controls” section and “Appendix V: Technical Information on Ventilation”
- Consider how the direction of approach to the person smoking impacts risk of exposure:
 - In most buildings, smoke will tend to rise.
 - If any visible smoke is present, try not to walk through it. Instead, go around it where possible.
 - If approaching the person smoking from above (as in a stairwell), the concentration of particulate will likely be higher and may lead to a higher exposure than approaching the person from below.
 - Similarly, there may be a higher risk of exposure if the person is smoking on the ground or in a wheelchair than while standing.
- Room entry protocols should include instructions for odour investigations. If there is an unusual smell in a room that may be from unregulated substance use, but no visible smoke is present and the source is unknown, perform a PTR and follow the workplace reporting requirements as needed. If the source of the smell cannot be confirmed, connect with your supervisor/manager to identify the issue and determine appropriate actions.

Personal Protective Equipment

PPE should be considered the “last line of defense”, especially with respiratory protection. PPE effectiveness depends on correct, consistent use and maintenance: this can be challenging in fast-paced environments. Measures from the other steps of the hierarchy of controls should be fully explored before implementing PPE.

Table 5 below summarizes minimum PPE guidance for working with and around unregulated substances: note that specific tasks (such as room cleaning/turnover, maintenance, etc.) may require additional PPE, and that other hazards may require additional PPE. In addition, when selecting PPE, a risk assessment should be performed. Always follow your workplace’s guidelines.

Table 5: PPE considerations specifically for unregulated substances.

Risk factors	Description/Examples	PPE
Hands or skin may come into contact with unregulated substances, or surfaces contaminated with residue from unregulated substances	Unregulated substances can enter the body if a person touches their eyes or mouth with contaminated hands, or through skin absorption of the substances themselves. Although some amount of unregulated substances can be absorbed through the hands/skin, it is unlikely to result in an overdose. Skin/hand exposure may occur when cleaning unregulated substances or when cleaning/touching surfaces in spaces where people have been using substances.	Wear nitrile gloves when cleaning or when touching/cleaning surfaces that may be contaminated with unregulated substances. Coveralls may be required during tasks such as in-suite maintenance where a worker may touch the ground or other surfaces with arms or legs.
Eyes/face may be splashed or sprayed with unregulated substances	Low likelihood during routine interaction or observation. May occur during tasks like cleaning significantly contaminated spaces (i.e. resident rooms).	Eye/face protection is not generally required for tasks like patrolling, interacting with residents, or working in office spaces, but may be required for cleaning (especially when cleaning loose unregulated substances).
Clothing may come into contact with unregulated substances	Low likelihood during routine interaction or observation outside of resident suites. May occur when interacting with surfaces that are contaminated with unregulated substances, or if dust contaminated with unregulated substances gets into the air (e.g. cleaning resident rooms).	Most of the time, being in a resident room, performing rounds, and working in your office would not require clothes coverings (like a disposable coveralls or shoe covers). Some activities, like room turn downs or maintenance work, may require the use of protective coveralls.
Potential to inhale airborne unregulated substances	High Inhalation risk is present when working around or in areas where someone is suspected to or known to have been recently smoking unregulated substances, regardless of the presence of smell or visible smoke	Wear respiratory protection when required by your workplace policies and in spaces where smoking has recently occurred. While half-face is appropriate in most scenarios, a higher level of respiratory protection (i.e., full face or PAPRs) may be

		required where workers are expected to enter and/or remain in areas with active smoking of unregulated substances and where other effective controls are not in place or cannot reasonably reduce exposure. The decision on what respiratory protection an employer should have available for workers should be based on a site-specific risk assessment, considering the task, exposure conditions, duration, existing engineering and administrative controls, and available exposure monitoring data. Additionally, workers should be completing pre-task risk assessments to ground their decision for controls, including what type of respirator is required, prior to any interaction.
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PPE – respiratory protection

The amount of airborne unregulated substances will vary from site to site due to factors such as room and building characteristics (such as layout, HVAC, etc.), where substances are smoked (inside a room, nearby, at an intake, etc.), what policies are in place and how well they are followed/enforced, what is present in the substances, and how they are smoked.

A risk assessment from a qualified person is required to understand which type of respiratory protection is required, and in what scenarios (see “risk assessment” section for more information). Respiratory protection will be required in high-risk situations, such as inside resident suites where there is known or suspected smoking. The OHS Regulation section 8.33 requires the employer to select an appropriate respirator in accordance with CSA Standard CAN/CSA-Z94.4-93 or Z94.4-18, Selection, Use, and Care of respirators. The selection must be made in consultation with the workers and the occupational health and safety committee or the worker health and safety representative (see [OHSR section 8.4](#)). For detailed information on this, see the

[WorkSafeBC “Breathe Safer: How to Use Respirators Safely and Start a Respirator Program” Guide on Selecting Respiratory Protection](#) and Section 8.3 of the Occupational Health and Safety Regulation.

Tables 1-4 in the “risk assessment” section contain generalized respiratory protection guidelines: Sites that wish to use lower protection factor respiratory protection, or no respiratory protection, will likely need to perform sampling to identify what respiratory protection to use. Keep in mind that the unregulated substances supply changes over time: new unregulated substances, or changes in substance use patterns, can change the makeup and quantity of what is in the air. Therefore, substance use trends should be looked at to ensure the trends of the current time match when the samples were taken.

The assigned protection factor (APF) is a number that can help indicate how much protection a properly functioning, well-fitted respirator provides. However, there are many considerations beyond APF when selecting a respirator (note that this list is not exhaustive):

- Some respirators may provide the same APF at different price points
- Whether or not fit testing is required annually
- Whether there is a need to see the mouth for clear communication
- How much training is required to use the device
- Maintenance, cost and availability of replacement parts, such as batteries (applicable for PAPRs), filters, cartridges, valves, and hoses (if applicable)
- Amount of time needed to put on/remove
- Comfort and portability to carry when not in use (immediacy)
- Individual user considerations such as use of glasses, medical restrictions, religious or cultural practices, and physical characteristics of the wearer

Therefore, individual workplace policies may require different respiratory protection than what is listed in Tables 1-4.

Respiratory protection for emergency response and unexpected exposures

Even in low-risk settings (such as “abstinence-based” buildings) workers may be exposed to unregulated substances during overdose response, or from clandestine substance use within the building. As a result, all workers who may need to respond to such events must be fit tested when required and trained for appropriate respiratory protection. While half-face respirators with P100 filters and OV Cartridges will likely need to be available in low risk settings, other tasks that require PPE and/or the site-specific risk assessment may require the use of a higher protection factor respirator. Workers in low-risk buildings who have the option to leave a space that is impacted by unregulated substance smoke (e.g. do not need to provide emergency response or interface with residents) may not need to be assigned respiratory protection.

Cartridges and Filters

Respirators can be fitted with many different types of filters and cartridges: a few examples that you may see in the workplace are listed here:

- Particulate filters, such as P100, are used with respirators to protect against particulate exposures.
- Organic vapour (OV) cartridges can reduce/eliminate exposure to both odours and contaminants in the vapour phase.
- Carbon pre-filters are specifically designed only to reduce nuisance odours and do not provide protection against hazards.

The decision on whether to use OV cartridges, carbon pre-filters, or similar cartridges, and the maintenance/change-out schedules for all parts of the selected respirator, should be determined in consultation with workers who are responding to these events, health and safety personnel, and a Qualified Person (defined by WorkSafeBC under Section 1.1 of the Regulation as someone “knowledgeable of the work, the hazards involved and the means to control the hazards, by reason of education, training, experience or a combination thereof”). The “Breathe Safer” document linked in the “resources for PPE” section provides more information on respiratory protection programs, and the CSA Standard (which can be accessed for free) provides details on the respiratory protection selection process.

When smoked, unregulated substances are present in the air primarily as particulates. Currently, little is known about contaminants in the vapour phase in unregulated substance smoke. Testing performed at inhalation OPS for both particulate and vapour phase unregulated substances identified little to no vapour phase. Smoke from unregulated substances contains many contaminants: The exact chemicals present, and amounts present, is difficult to accurately test for. However, it is expected that these will be at lower levels than the unregulated substances themselves. Out of an abundance of caution, or to protect against other hazardous substances, workplaces may opt to use OV cartridges as well as particulate filters.

Resources for PPE:

WorksafeBC Guide on Selecting Respiratory Protection: [Breathe Safer: How to Use Respirators Safely and Start a Respirator Program](#)

[WorksafeBC Section 8.32 for PPE Regulations](#)

CSA Standard CAN/CSA-Z94.4-93, Selection, Use, and Care of Respirators:

<https://community.csagroup.org/login.jspa?referer=%252Findex.jspa>

Appendix I: Definitions of Terms used in the Document

Dermal exposure: being exposed to a contaminant by touching it or getting it on your skin. Not all contaminants that get on your skin will enter your body: only some are absorbed through the skin.

Drug poisoning: drug poisoning is preferred to the term “overdose”. The term drug poisoning is used instead of overdose as it is a more accurate term used in toxicology to describe the physiological harms that can occur from consumption of substances. Overdose is used to discuss current programs and initiatives (e.g. overdose prevention services).

Emergency shelters: encompass circumstances where a facility provides an individual with temporary overnight shelter or in some extreme circumstances beyond overnight until the emergency is over. Residents in emergency shelters may have an immediate need for support services, including help with meeting basic needs for nutrition, hygiene, and health services. Residents may be required to abide by house rules as a condition of their stay.

Episodic overdose prevention service (eOPS): refers to the act of witnessing consumption of regulated and/or unregulated substances by a service provider to prevent and respond to drug poisoning, wherever services are required. Often, eOPS takes place outside of established sites, at outreach settings, private residences, care homes, etc.

Ingestion exposure: ingestion of contaminated food or drink.

Inhalation exposure: breathing in a contaminant.

Overdose: see definition under “drug poisoning”.

Overdose prevention service (OPS): refers to a service where drug poisoning (overdose) prevention and response occurs. OPS includes fixed site services, including overdose prevention sites and supervised consumption sites as well as portable services, including episodic overdose prevention services and mobile overdose prevention services.

Packaged Terminal Air Conditioner (PTAC) unit: In-unit heaters/coolers that have internal filters which require periodic cleaning.

Particulate: colloquially referred to as “smoke”. For the purposes of this document, “particulate” is defined as aerosols composed of liquids and/or solids that vary in size and composition. They are generally invisible to the naked eye but may have an odour. These can be generated by smoking unregulated substances, or from “cooking” them.

Pre-Task Risk Assessment (PTRA): for the purposes of this document, this refers to assessing the potential harms to the worker before entering the room, suite, or area to inform the proper precautions to take.

Qualified Person: WorkSafeBC accepts that a qualified person is a person (or a group of persons) who is knowledgeable of the work, the hazards the work presents, and the means to control the hazards, through education, training, and experience.

Secondary/second-hand exposure: exposure to a substance (in this case, unregulated substances) through means other than direct use of the substance. For example, breathing in smoke or touching contaminated surfaces.

Shelters: are generally short-term, emergency housing options. They provide a place for individuals experiencing homelessness to stay temporarily, with supportive services available on-site. Shelters are designed to provide immediate relief and protection but may not have the comprehensive support systems that supportive housing programs offer. Shelters vary widely in terms of how they operate, who they serve (e.g., individuals or families), and the services they provide, depending on the funding and the community’s needs.

Supervised Consumption Site (SCS): refers to an overdose prevention site that operates through a federal exemption to the Controlled Drugs and Substances Act.

Supportive housing: typically refers to longer-term, stable housing that includes supportive services, such as case management, mental health support, substance use support, or other services that help individuals maintain housing and achieve greater independence. The goal of supportive housing is to provide a stable living environment that helps individuals address underlying issues, such as health or employment challenges, and possibly transition into greater self-sufficiency. Supportive housing is often targeted to individuals with chronic homelessness or other complex needs.

Trauma and violence informed care: refers to services and care delivered in a way that acknowledges the effects of interpersonal and systems-level trauma and violence on a person’s behaviour and health. Trauma informed care aims to promote safety and trust through connection and collaboration and using strengths-based approach.

Unintentional substance exposures: refers to unplanned direct or indirect contact with an unregulated substance that can result in health effects.

Unregulated drug supply: refers to various unregulated sources or markets that are not regulated for quality or consistency by an oversight body (such as Health Canada), where unregulated substances are produced, distributed, bought and sold.

Unregulated substances: refers to psychoactive substances that are not monitored for consistency or quality. This means the potency and contents of substances can be variable and unpredictable. Often referred to as “illicit substances” or “street drugs”. Regulated substances refers to a psychoactive substance that is currently controlled and regulated by a federal oversight body to monitor for potency, quality and consistency (e.g. prescription medication, fentanyl patch, cannabis, alcohol).

Workers Compensation Act: establishes the Workers' Compensation Board of B.C. (WorkSafeBC) as an entity and sets out the mandate for WorkSafeBC. The Act provides the legal authority and framework for all WorkSafeBC activities, including occupational health and safety activities.

Appendix II: Providing Care for People Who Use Substances (PWUS)

BCCDC's Professionals for Ethical Engagement of Peers (PEEP) Advisory Board was engaged on the development of this section. PEEP represents diverse perspectives of people with current and past substance use history across BC, including people who use stimulants and opioids, youth, Indigenous peoples, and people who are pregnant and parenting.

People with lived and living experience of substance use (PWLLE) are uniquely positioned to use their expertise to inform professional work. PWLLE can provide insights into the realities of substance use, associated risks when accessing the unregulated drug supply, and the applicability of programs and policies. PWLLE engagement can be mutually beneficial in promoting health equity in programs and policies while building capacity for PWLLE.

People who use unregulated substances may do so inside supportive housing and emergency shelters for many reasons. This may be because they face criminalization when using substances in public spaces, for social reasons, a lack of other safe spaces to use, or because their home is where they feel most comfortable. There is an identified need to house people who face dual threats of drug poisoning and homelessness.

Indigenous residents and guests may face harmful assumptions about substance use, which stem from systemic racism and stigma. Stereotyping can lead to Indigenous peoples being subjected to greater scrutiny and denied reasonable access to supports and services.

Because people who use substances often face stigma and discrimination in housing, supportive housing and emergency shelters should focus on creating welcoming and supportive environments that actively engage people who use substances to help them stay housed while pursuing their self-identified health goals.

Recommendations:

- Provide housing workers and security with necessary safe work procedures and equipment to quickly enter resident rooms and spaces for emergency response, wellness checks, and maintenance.
 - To prevent delays caused by workers' fear of exposure to unregulated substances, employers should provide housing workers and security with clear safe work procedures and proper protective equipment. These measures enable workers to enter resident rooms promptly for emergencies, wellness checks, and maintenance, reducing the risk of harms from delayed care.

- Housing providers should [meaningfully engage](#) with PWLLE in a training and advisory capacity when developing policies and procedures that affect them, such as smoking policies, and drug poisoning response and prevention procedures.
- Both security and housing workers should provide services in a way that centers dignity, respect, and humility.
- Housing providers should offer opportunities for housing workers to engage in further training and education on working with PWLLE to better serve this priority population.
- Supports such as withdrawal management, substance use treatment, Overdose Prevention Services, and [Episodic Overdose Prevention Services](#) (E-OPS) should be considered to help people who use substances remain housed and to reduce the risk of unintentional exposure to workers. These supports should be offered in a [culturally safe manner](#).
- Security and housing workers should keep trauma-informed practices in mind when working with residents. See following resources for additional information:
 - The Centre of Excellence for Women's Health has a series of [guides on trauma informed care, including for substance use](#)
 - EQUIP Health Care: Equipping Health and Social Services for Equity also has information [on trauma and violence informed care](#).
- Employers should consider hiring workers who identify as PWLLE to provide supports and services to clients who use substances. Employers should follow existing [Peer Engagement Principles and Best Practices](#). Infrastructure, worker training, and education is needed to better support PWLLE who are employed to provide eOPS and peer support.

Appendix III: Exposure Limits

In some cases, employers may need to or choose to conduct air monitoring (see “Risk Assessment” section of this document). The information in this section is meant to help sites who perform sampling understand what their results mean and how they tie to the regulations.

Employers must take steps to limit exposures to hazardous substances (section [5.48 of the Occupational Health and Safety Regulation](#)). Occupational exposure limits are the airborne concentrations of a substance that nearly all workers may be repeatedly exposed, day after day, over a working lifetime, without adverse health effects. Per WorkSafeBC [Guideline G5.48-2](#): “An exposure limit is not intended to represent a fine line between safe and harmful conditions. Due to a wide variation in individual susceptibility, some workers may experience discomfort from some substances at concentrations at or below the exposure limit. Others may be affected more seriously by aggravation of a pre-existing condition, or by development of an occupational disease”. Occupational exposure limits are adopted and enforced by WorkSafeBC, and exist for many chemicals that can be found in workplaces. Exposure limits can be set for 8-hour workdays (called 8-hour time weighted averages): these exposure limits can be mathematically modified to fit longer work shifts. Exposure limits can also be for shorter time periods, like 15 or 30 minutes, or can have levels that can’t be exceeded at any time.

There is no exposure limit for “unregulated substances” as these are generally a mixture of various substances. However, in January 2025 WorkSafeBC adopted exposure limits for fentanyl and fentanyl citrate, which are common ingredients in the unregulated drug supply. More information on fentanyl and fentanyl citrate is [available through WorkSafeBC](#). The exposure limits for these substances are:

- 1) an 8-hour time-weighted average (TWA) exposure limit of $0.1 \mu\text{g}/\text{m}^3$ (micrograms per cubic metre) and,
- 2) 8-hour excursion limits (permissible limits for short-term exposure to a hazardous substance) of:
 - $0.3 \mu\text{g}/\text{m}^3$ for no more than 30 minutes during the work period, and
 - $0.5 \mu\text{g}/\text{m}^3$ for any length of time.

When working a non-standard work shift (i.e. longer than an 8 hour shift) the exposure limits can be adjusted following section [5.50 of the Regulation](#). Table 6 below shows the 8-hour time-weighted average fentanyl exposure limit adjusted for different shift lengths.

Table 6: Fentanyl exposure limits for different lengths of work shifts

	Shift lengths				
	8-hour shift (standard)	More than 8, but not more than 10 hours	More than 10, but not more than 12 hours	More than 12, but not more than 16 hours	More than 16 hours
Time-weighted average¹	0.1 ug/m ³	0.07 ug/m ³	0.05 ug/m ³	0.025 ug/m ³	0.01 ug/m ³
30-minute excursion limit²	0.3 ug/m ³	0.21 ug/m ³	0.15 ug/m ³	0.075 ug/m ³	0.03 ug/m ³
Exposure limit not to be exceeded for any length of time	0.5 ug/m ³	0.35 ug/m ³	0.25 ug/m ³	0.125 ug/m ³	0.05 ug/m ³
¹ concentration of a substance in air which may not be exceeded over the work period					
² concentration of a substance in air which cannot be exceeded for a total of 30 minutes during the work period					

For more information on potential signs and symptoms of exposure to unregulated substances and guidance on post-exposure management, review [BCCDC guidance](#).

Appendix IV: Working with WorkSafeBC

Responsibilities

Employers, supervisors, prime contractors, owners, and workers have responsibilities for ensuring the health and safety of workers required by the [Workers Compensation Act](#) and [Occupational Health and Safety Regulation](#). The responsibilities listed below are general wording from WorkSafeBC's regulations. This document includes tools that can assist in fulfilling these requirements. However, people with decision-making responsibility must consider the specific workplace conditions to determine how best to achieve compliance with these requirements.

Everyone at a work site, and people who own the site, have roles, rights, and responsibilities for safety. These are important to understand, especially when there are agreements in place between different employers. For additional general information on regulatory requirements relating to roles and responsibilities from WorkSafeBC, see: [Roles, rights & responsibilities - WorkSafeBC](#). Employers specifically can learn more about their responsibilities from [this link](#) and can find out more about [coverage here](#). If there are questions about responsibilities, contact the WorkSafeBC Employer Service at 1-888-922-2768 for assistance.

Fulfilling the responsibilities

WorkSafeBC has information and tools available to help employers develop health and safety programs, policies and safe work procedures required by regulation. See: [Getting Started](#)

Authority of WorkSafeBC Prevention officers

WorkSafeBC Prevention officers (prevention officers) and other WorkSafeBC personnel are granted authority under the [Workers Compensation Act](#) (WCA) and [Occupational Health and Safety Regulation](#) (OHSR).

Prevention officers are mandated under the Worker's Compensation Act to protect workers and other persons present at workplaces from work-related risks.

See this web page from WorkSafe BC on Inspections and what to expect before, during, and after: [WorkSafeBC inspections: What to expect and how they help - WorkSafeBC](#)

Specific information that may be helpful when speaking to prevention officers about exposures to unregulated substances

- WorkSafeBC may be responding to worker concerns relating to exposures to unregulated substances, however prevention officers are not generally permitted to identify the specific reason for the inspection.
- WorkSafeBC inspections will not be focused on the safety of clients/PIC/residents except where the safety of other parties may impact the safety of workers.
- Prevention officers have an evolving understanding of harm reduction terminology. Assist prevention officers by explaining preferred terminology used at the workplace.
- While prevention officers have been provided instruction on unregulated substances and related public health and ministerial orders, it may be helpful to clarify for prevention officers how these orders relate to the workplace being inspected. Provide the prevention officer with links or copies of orders or requirements issued by other governing bodies, if these are applicable to the work practices being discussed or have bearing on the practicability of hazard control options. It is noted that regardless of any practice standards that may apply, workers always retain the right to refuse unsafe work, and workers are not expected to put themselves at undue risk during the provision of care.
- Advise prevention officers of the existence of procedures or other documentation that relate to worker safety. Provide copies of these documents on request, which may include:
 - Applicable BCCDC guidance documents
 - Exposure complaint/ IAQ investigation records
 - Emergency response procedures
 - Standard operating procedures/ Safe work procedures
 - Intake assessment documents
 - Spill/clean-up procedures
 - Safety data sheets or other hazard information
 - Respirator fit test records
 - Worker safety training records
 - Manuals or specification of ventilation systems or other controls used to minimize air-borne contaminants
- Advise prevention officers of any exposure risk assessments that have been developed or any worker exposure monitoring or air monitoring data that may be available. Provide copies of these documents and any resource documents that may have been used to support the development of these documents, if requested.

Using BCCDC exposure guidance documents to support compliance with WorkSafeBC requirements

- WorkSafeBC accepted an exposure limit for fentanyl in January 2025 ([New exposure limit for fentanyl and fentanyl citrate | WorkSafeBC](#)). Exposure limits enforced by WorkSafeBC can be found on the [WorkSafeBC website](#).
- In addition to the requirement to ensure worker exposure to fentanyl remains below the exposure limit, there are other regulatory requirements prevention officers may consider in order to address health and safety concerns arising from unintentional exposures. Some common regulatory requirements that WorkSafeBC prevention officers may consider include:

Table 7: summary of regulatory requirements from WorkSafeBC	
Regulatory section	Summary of requirement
WCA 21 – General duties of employer	WCA21(1) Every employer must ensure the health and safety of all workers working for that employer, and any other workers present at a workplace at which that employer's work is being carried out
OHSR 3.10 – Investigation of unsafe conditions	Persons receiving the report must investigate unsafe conditions or acts and must take corrective action without delay.
OHSR 3.12 – Refusal of unsafe work	Workers must refuse unsafe work, and report such work to the employer. If a report is received, the matter must be immediately investigated to ensure any unsafe conditions found are remedied without delay.
OHSR 4.1 – Safe workplaces	A workplace must be planned, constructed, used and maintained to protect from danger any person working at the workplace.
OHSR 4.79 – Indoor air quality complaints	Employers must investigate air quality concerns when complaints are reported. Investigations must include sampling for airborne contaminants suspected.
OHSR 5.2 – Hazardous substances	If workers are exposed to hazardous substances, risks must be communicated to workers and written procedures to eliminate or minimize the risk of exposure prepared and implemented. Workers and supervisors must be trained on these procedures.

OHS 5.48 – Exposure limits	Employer must ensure that no worker is exposed to a substance that exceeds the ceiling limit, short-term exposure limit, or 8-hour TWA limit prescribed by ACGIH.
OHS 5.50 – Extended work periods	The 8-hour TWA exposure limit must be reduced if the work period is more than 8 hours in a 24 hour day. (see Regulation for reduction factors).
OHSR 5.52 – Limiting skin exposure	Effective measures must be taken to limit the skin absorption of substances which are identified with a "Skin" notation by the ACGIH.
OHSR 5.53 – Workplace monitoring	Employers must assess potential for overexposure to all hazardous substances, which may require that air sampling is conducted.
OHSR 5.54 – Exposure Control Plan	If workers may be exposed to a substance in excess of 50% of its exposure limit, and exposure control plan must be implemented.
OHSR 5.55 – Types of controls	If there is a risk to a worker from exposure to a hazardous substance by any route of exposure, the employer must eliminate the exposure, or otherwise control it below harmful levels by substitution, engineering control, administrative controls. The use of personal protective equipment is only permitted when other methods of control are not practicable, insufficient to reduce exposure sufficiently, or the exposure results from temporary or emergency conditions. Recommended exposure limits published by other bodies (such as ACGIH) may be used as an indication of “harmful levels” even when the exposure limit has not been accepted by WorkSafeBC.
OHSR 5.59 – Investigating symptoms	If a worker exhibits signs or reports symptoms of overexposure to a hazardous substance, employers must investigate in consultation with JHSC to address and resolve. Records of the investigation must be maintained for at least 10 years and made available to workers.
OHSR 5.61 – Engineering principles	A ventilation system for controlling airborne contaminants in the workplace must be designed, installed and maintained using established engineering principles.

- While safe work procedures that align with BCCDC guidance should generally be found acceptable to prevention officers, it may take prevention officers some time to gain familiarity with this guidance and how procedures should be implemented in various workplaces.
- Despite alignment with provincial guidance documents, site specific risk factors, observations, or reports from workers may lead a prevention officer to require additional evidence (including exposure monitoring) to support that workers are not being exposed to harmful levels. If an order is issued by a prevention officer, ensure you understand the specific compliance test you must meet to achieve compliance.
- While the BCCDC guidance documents outline procedures that are expected to be practicable in most settings to which the guidance applies, prevention officers may determine that for a specific situation, additional measures to control exposure risk to workers may be practicable. Employers may be required to provide evidence to support that either:
 - The implementation of additional control measures is not reasonably capable of being done
 - Residual exposure risk remaining after controls have been implemented does not pose a health or safety risk to workers
- Including worker participation and input into risk assessments, exposure assessments, safe work procedures, training, inspections and investigations as required by Regulation will help prevention officers to determine that measures taken are reasonable and sufficient.

Appendix V: Technical Information on Ventilation

This section is aimed at building managers, health and safety personnel, and maintenance workers who wish to better understand ventilation and HVAC systems at a technical level: it is not a comprehensive list of all available controls, and the controls listed here are not discussed in enough detail for a non-qualified person to put in place at their workplace. This section does not replace consulting with a qualified consultant and is meant to give information to better facilitate conversations and solutions when working with consultants and contractors.

HVAC systems and their components are mentioned throughout this section, and it is also important to note that most HVAC systems are designed for occupant comfort, not for contamination control. This is an important distinction, as it will create limitations on how HVAC systems can be used and how effective they will be. Some buildings will only have HVAC systems that operate in common spaces such as hallways and lobbies.

HVAC and Air Quality Performance Assessment

Table 8 below gives information on characteristics that impact HVAC performance, air quality, and how to improve these in a given space.

Some information in this table may not be easily attainable or accessible: for example, evaluating air changes may require specialized equipment that a site does not have access to. Where there are information gaps, a qualified person will be able to help complete the assessment based on professional judgement and what information is available for the location being evaluated.

Spaces without ducted HVAC should think about the use of filtration, space isolation, and ventilation via other means such as open windows for identifying their performance rating.

Table 8: HVAC and Air Quality Performance Assessment	
HVAC and Air Quality Performance Rating	Suggested Ways to Improve HVAC Performance and Air Quality
High performance – maintain as needed Steady airflow (system fully functional; high-volume, non-recirculating air flow). Air feels consistently “cleaner” System built for the current layout of the building (supply air vents are consistently present throughout the space)	• Maintain building clean air capacity. • Run HVAC systems continuously where possible • Keep vents unobstructed • Maintain HVAC filters and exhaust fans

6 to 8+ ACH Strong removal capacity via strong HVAC with additional portable air filtration in hotspots and/or higher-efficiency filtration where the system can handle it. MERV 13 or greater filtration	Continue incident reporting and monitoring of indoor air conditions
Moderate Performance – take action soon Steady airflow. System mostly functional: only a few blocked, disconnected, or malfunctioning parts. Fans continuously blowing. Medium volume air flow – fans run continuously 4 to 6 ACH Good dilution and removal Continuous airflow; MERV 13 or greater filtration	- Increase the building’s ability to dilute and remove airborne contaminants providing clean air (fresh or filtered) in occupied spaces. - Run HVAC systems continuously where possible - Upgrade central HVAC filtration where feasible - Ensure bathroom and kitchen exhaust fans are functional - Deploy portable air cleaners in employee only areas or identified hotspots - Verify airflow pathways (vents, door gaps, corridor airflow)
Low Performance – take action as soon as possible Some airflow. Many parts of system disconnected, blocked, or malfunctioning. Few /sporadic supply vents. Fans cycle on/off blowing. 2 to 4 ACH Some contaminant removal MERV 10-12 filtration	- Designate specific indoor smoking areas equipped with local exhaust and strong ventilation - Upgrade central HVAC filtration where feasible - Locate employee only work areas away from frequent smoking locations - Use portable air cleaners in corridors, employee only rooms, and program spaces
Poor Performance – take action immediately Air feels stale. Weak airflow. Most parts of system damaged, malfunctioning, blocked, or disconnected. Fans cycle on/off blowing. No/few supply vents. Recirculating air system, especially those without filtration <2 ACH Air removal capacity is low. Filtration < MERV 10	- Designate specific indoor smoking areas equipped with local exhaust and strong ventilation - Upgrade central HVAC filtration where feasible - Use window exhaust fans or local extraction where HVAC cannot provide sufficient removal - Use portable air cleaners in corridors, employee only rooms, and program spaces - Review facility ventilation design for longer-term improvements

Determining air changes per hour and clearance times:

The air changes per hour (ACH) is a common unit of measurement used in ventilation and describes the number of times per hour the entire volume of air in a space is replaced with “fresh” air. Fresh air could be outdoor air, filtered air (like from an air cleaner), or air from another space that does not have contaminants in it.

It is helpful to know the air exchange rates in various high-risk areas as it can help identify how long it will take for a space to be “free” from contaminants, and therefore safe to enter without additional precautions (aside from those needed for surface cleaning or for other hazards identified during the pre-entry hazard assessment). Note that this only works for systems that have had their air changes accurately measured, and in spaces where there have been no changes to the ventilation while it is on (i.e. no windows or doors have been opened, etc.)

The number of ACH in a space depends on many interrelated factors: HVAC systems, filtration, leakage of air due to gaps in the building, windows (how much they are open, where they are positioned relative to wind, etc.), amount of contaminants present in the air, etc. Trying to determine the exact ACH of a space will require help from people like HVAC engineers or your health and safety team. The below information provides some “rules of thumb” that can be used as estimations.

Table 9: air changes per hour and approximate time (mins.) required for removal 99% efficiency	
Air changes per hour	Time (mins.) required for removal 99% efficiency
0.35	789
0.5	552
1	276
2	138
3	92
4	69
6	46
8	35
10	28
12	23
15	18
20	14
50	6

Values were derived from a formula, which can be found on the webpage for the table [US CDC Guidelines for Environmental Infection Control in Health-Care Facilities](#)

Note that Table 9 above only applies to rooms where no airborne contaminants are being generated, are based on theoretical calculations, and should be used as estimates only. Your HVAC engineer, facilities maintenance team, and/or safety and hygiene team may have tools available to measure the actual removal efficiency of a given space.

Filters and filtration

HVAC systems typically use the “MERV” filter rating system. The higher the MERV rating, the better the filtration. MERV 13 is the recommended minimum for small particles (such as those found in airborne unregulated substances). The best filtration comes from HEPA filters (MERV 16 or higher). However, HVAC systems in residential buildings are unlikely to be able to support high efficiency filters unless they were already designed to do so. Work with your HVAC team or a consultant to determine the highest rated filter you can reasonably install in your system. Adding multiple “lower” MERV filters to a system may help with cleaning efficiency if MERV13 or greater filters cannot be used, or can be used as a pre-filter in conjunction with more efficient filters.

Portable air extractor units may be a viable option for some areas. These units take in air and exhaust it to another space, typically outdoors. These can be highly effective at cleaning air in spaces that may have high concentrations of airborne unregulated substances and can help to negatively pressurize a room. If used, ensure exhaust is away from windows, intakes, etc. or ensure that the air is sufficiently filtered before exhausting.

Information on portable air filtration/portable air cleaners are in the “Air Cleaners” under the “Engineering Controls” section.

Pressurization

A positively pressurized space will push air out, meaning contaminated air outside of a space will have difficulty entering, and contamination inside the space will have difficulty leaving. A negatively pressurized space will pull air inside, meaning contaminated air inside the space will likely stay in, and contaminated air outside of a space will be more likely to enter the space. Utilizing these characteristics in employee spaces and adjacent spaces can help manage air movement. Creating a pressurized space, and understanding how to maintain pressurization, will likely require the help of a specialist.

In most buildings opening doors and windows will cause the room’s pressurization to equilibrate to the space that the door or window is being opened to. This is especially important to keep in mind in spaces that are intended to be pressurized – doors and windows need to be kept shut to maintain pressurization.

Air flow

Air flow is a complex process that is often counter-intuitive and may not work as anticipated: keep this in mind when establishing air flow based controls, and work with your HVAC/engineering consultant when using air flow as a permanent control.

Installing fans to push air across windows or opening may assist in minimizing the exchange of air between spaces. Room pressurization, air flow, and amount of time the window or opening are open can all affect how effective this solution is. This method is difficult to create and maintain for large openings such as doors without using a dedicated and specialized system. Air curtains are commercially available solutions that can be used for a similar purpose, but to work effectively these require a deep understanding of the airflow in and between your spaces.

Opening windows is a very effective way to introduce fresh air to a space, and is more effective when the wind is blowing fresh air into the space, or when fans are placed strategically. Ensure that opening the window does not introduce additional contamination into the space (for example, if the window is located near an outdoor OPS), or move the contamination to other occupied areas.

Fans can be used to push contaminated air out of a space into another one, or to push fresh air into a contaminated space. Even moving contaminated air into another indoor space can help reduce risks, because if you are moving the high-concentration contamination to an area where it has a lower concentration, it will dilute the contaminant. Fans “suck” air into their backs and push it forward, so if you are using a fan to push air out of a window or pull it from a window, you want to position the fan close to the window. To bring in air from the outside, face the fan inwards and place the back of the fan near the open window. To exhaust the air, turn the fan so it is facing outwards. In larger spaces, multiple fans can help direct air towards or away from window fans.

Additional Tools and resources

- [Ventilation and the Indoor Environment, Health Canada](#)
- [BC Housing Building Commissioning Guidelines](#).
- [Harvard Healthy Building Program, 5-Step Guide to Checking Ventilation Rates in Classrooms](#)
- COVID-19 resources: note that although these are for COVID-19, the principles within these documents will often apply for unregulated substances
 - Occupational Health Clinics for Ontario Workers ventilation resources for COVID-19
 - [Ventilation calculator](#)
 - [Ventilation Checklist](#)
 - [Ventilation in Education video](#)
 - [ACGIH White paper: Engineering Controls for Bioaerosols in Non-Industrial/ Non-Healthcare Settings](#) (pages 13-19)

Appendix VI: Cleaning Guidelines

As substances are smoked, cooked, or placed on surfaces, unregulated substance particles settle on surfaces (e.g. walls, tables, ceiling, and furniture) and need to be safely cleaned to reduce the risk of exposure. These particles can enter the body in different ways, such as inhaling particles that are “kicked up” by cleaning, from getting the dust in your eyes or nose, or from eating in the space. Although some amount of unregulated substances can absorb through the hands/skin, it is highly unlikely to result in an overdose.

These procedures are intended for cleaning areas after suspected or confirmed unregulated substance use, once sufficient time has passed that the area is likely clear from airborne unregulated substance contamination. It can also be used for disposal of harm reduction supplies (spoons, pipes, needles, etc.) that have “stuck on” residue that cannot be easily spilled or airborne (i.e. visible dark residue on a cooker that is not in liquid form, some substance found inside of a fully used syringe). Cleaning inside of overdose prevention sites/safe consumption sites follow different protocols, which are found in the [Overdose Prevention Services guidance](#).

Specific safe work procedures for surface cleaning must be developed for the site. The information in this section is meant to enhance existing procedures, not replace them. Always follow existing workplace policies for entering and working within different spaces, such as room entry protocols or protocols for working within clutter/hoarding spaces. These protocols often have procedures for avoiding other hazards, such as pests or sharps, and may include additional PPE requirements, such as wearing steel-toed boots.

There is a recommended surface limit for fentanyl of $1\mu\text{g}/100\text{cm}^2$ through the American Conference of Governmental Industrial Hygienists. There are also many different non-regulatory surface limits for methamphetamine, which vary between countries and states. The surface limits for methamphetamine range from $0.05\mu\text{g}/100\text{cm}^2$ (in Arkansas) up to $1.5\mu\text{g}/100\text{cm}^2$ (used in many places, such as New Zealand and California). In addition, Colorado has a limit of $4.0\mu\text{g}/100\text{cm}^2$ for limited exposure areas. While these are not WorkSafeBC limits, they may be used to verify the cleanliness of surfaces, the efficacy of the cleaning procedures, and/or the extent of unregulated substance contamination in a space. Always wear nitrile gloves when interacting with surfaces that may have been exposed to particulates or unregulated substance contamination. If you are interested in performing surface testing, contact a lab using a validated sampling method to provide this analysis.

This appendix is separated into sections based on different cleaning scenarios:

- General considerations: apply to all cleaning scenarios
- Regular cleaning: this includes cleaning common/shared spaces, employee only spaces, and helping residents with periodic cleaning activities in their rooms.
- Move-out cleaning: this includes cleaning or removing surfaces and contents in private resident suites following move out
- Cleanup and disposal of bulk unregulated substances
- Maintenance within the suite (like fixing plumbing leaks)

General Considerations when implementing cleaning protocols

1. Always follow your workplaces policies and guidelines for cleaning. This will include PPE requirements.
2. The cleaning schedule will depend on how frequently workers interact with different surfaces, in what way they interact with those surfaces, and the frequency of substance use within your building. Work with your health and safety team and workers to perform a risk assessment to identify which areas are of high concern, and how frequently they may need cleaning.
3. Ensure all supplies are disposed of in accordance with your site's hazardous waste and/or bloodborne pathogen policies.
4. Avoid dry sweeping/dusting in the space, as this can cause unregulated substances that have deposited on surfaces to get into the air and be breathed in. Use wet wiping: moisten a surface with a cleaner or water before wiping, sweeping, vacuuming, or mopping it.
5. Based on studies conducted in Australia, there is a relatively low risk for health impacts in places where people have been smoking methamphetamine. Infants and toddlers, where present, may have some increased risk. However, it is challenging to identify the components of an unregulated substance quickly ahead of cleaning. For this reason, we are using the airborne fentanyl exposure limits as a proxy for exposure in these spaces.
6. The size of area to clean following confirmed or suspected substance use will depend on the characteristics of the room and how the substance was used. For cooking, injection, snorting, and ingestion, the impacted area is expected to be limited to spaces and contents immediately adjacent to where the substance use occurred. For smoked substances, consider the airflow and design of the room to determine how far smoke may have traveled. When in doubt, focus on high touch surfaces and clean a larger area rather than a smaller one.

7. If you are using chemical cleaners (such as concentrated peroxide cleaners, bleach, specialty decontamination products, etc.), make sure to check the safety data sheet (SDS) for safety information (such as additional PPE needs or eye wash stations) and that workers have received appropriate Standard Work Procedures (SWP) training. Soap and water and low concentration hydrogen peroxide wipes (e.g. oxivir) are not considered concentrated cleaning products. To protect against exposures to unregulated substances, you may need to wear more PPE than what is required for normal cleaning: Use a Risk Assessment to determine appropriate PPE.
8. Workers must be trained on cleaning procedures before doing any cleaning. If materials from the site are being sent away for cleaning, or if third party contractors are being used for cleaning activities, the employer has a responsibility to inform third parties of potential hazards to their workers.
9. It may take multiple washes to reduce the concentration of drug residues to below surface limits, especially for porous materials, and if the concentration of residues is high. Soap and water can be effective at removing residues from surfaces, but currently available literature suggests hydrogen peroxide can improve cleaning effectiveness: 0.5% - 4.5% hydrogen peroxide is sufficient. Examples of hydrogen peroxide wipes are Accel Sporicidal wipes and Oxivir TB wipes. Other products such as bleach are effective, but can introduce other chemical hazards into the workplace.
10. All cleaning of non-porous surfaces (such as linoleum, counters, tables, non-upholstered chairs) should be wiped down/cleaned twice, at minimum:
 - a. When using a pre-wetted wipe a new wipe should be used for each wipe down, but it can be the same type of wipe. Follow the instructions on the packaging, paying special attention to the required contact time (or, how long the surface should be “wet” with the product to be effective for decontamination)
 - b. Soap and water may also be used for 2 step cleaning: rinse the surface completely after the first wash.
11. Porous materials, like carpets, upholstery, clothing, curtains, and other fabric-containing materials, may absorb drug residues.
 - a. You can wash most things in a washing machine, such as blankets and curtains. Wash them on hot with normal soap and water. For materials that may be heavily impacted, consider multiple washes.
 - b. Materials that can't be removed easily, like couches or carpeting, can be HEPA-vacuumed first to remove any easy-to-remove particulate contamination. Then, follow up with multiple washes with a steam/carpet cleaner.
 - c. Heavily impacted materials may need to be thrown out.

12. If a site would like to evaluate the efficacy of their cleaning procedures, one way to do so is to do surface sampling for unregulated substances on site. Lab validated to provide surface sampling analysis will be able to help you with some aspects of developing a sampling protocol, though you may need to hire an outside consultant or talk to your health and safety committee to create a full protocol. 10.
13. Vacuums, where used, should be equipped with HEPA filters to prevent the re-circulation of unregulated substance particles that may have settled on surfaces.

Regular cleaning procedure guidelines

1. These protocols do not apply to cleaning bulk amounts or spills of unregulated substances: see dedicated section for this.
2. In addition to these protocols, refer to the “general considerations” section for more cleaning information.
3. Workers should not enter a space where someone has recently smoked to perform cleaning unless they are reasonably sure that enough time has passed for the air to clear: Workers should be directed to contact the health and safety team for more guidance on how to determine this and use the PTR to determine if a space is safe to enter or not. Waiting until the space has cleared may allow the worker to enter without respiratory protection— however, workplaces guidance may require workers to wear respiratory inside of specific spaces (such as resident rooms) regardless of the amount of time has passed, or for all cleaning activities.
4. Cleaning frequency (for both regular and deep cleaning) should be determined by the employer in consultation with the health and safety team/joint committee.
5. Ventilation systems should be cleaned regularly to prevent surface buildup; the exact schedule can be determined in consultation with the HVAC team and the health and safety team. Cleaning frequency will be based on how often smoking incidents occur, which areas the HVAC system serves, and general airborne unregulated substance concentrations.
6. Currently available literature identifies hydrogen peroxide as an effective active ingredient for decontamination of drug-contaminated surfaces: 0.5% - 4.5% hydrogen peroxide is sufficient. Examples of hydrogen peroxide wipes are Accel Sporicidal wipes and Oxivir TB wipes.

Move out or deep cleaning:

1. Move out cleaning is performed after a resident has vacated their room/suite.
2. The guidance in this section assumes that a suite/resident space will have higher concentrations of unregulated substances deposited on surfaces than common areas do. This is because unregulated substance concentrations will be highest close to the user, and because there is more likely to be substance use inside of suites than in common areas.

3. Also refer to the guidance in the “general considerations” section when drafting move out or deep cleaning procedures.
4. When doing move out cleaning, always follow workplace policies, including any guidelines on dealing with cluttered/hoarded spaces or for demolition/renovation of a space (such as those outlined in OHSR 20, particularly OHSR 20.112 for hazardous materials). These protocols will cover non-substance related hazards, such as sharps, asbestos, or pests.
5. When cleaning a space that has had substance use inside of it, wear the appropriate PPE as determined by your site-specific procedures and risk assessment.
 - a. In general, the same procedures for cleaning can be followed as are outlined in the “general cleaning” procedures section.
6. During cleaning, ventilate the space as much as possible and exhaust air to the outdoors. This may include opening windows, using fans to blow air outside, or use of portable filtered extractors. Air cleaners may also be used.
7. Substances such as methamphetamine can absorb into the drywall and insulation: if these building materials are not removed, ventilating a space can help encourage the absorbed substances to escape. However, washing will still be required, as it can take months for absorbed substances to fully leave.
8. Painting spaces with an encapsulating paint can help reduce exposure to unregulated substances deposited in drywall but may not be sufficient if there is heavy contamination. Cleaning surfaces before encapsulation can help reduce contamination.
9. Surfaces that are frequently contacted (countertops, door handles, etc.), flooring, and walls at reachable height will pose the greatest exposure risk and should be the primary targets for cleaning activities.
10. In some cases, it may be easier and more cost effective to remove drywall and replacing carpeting with non-porous flooring. This decision will be based on the amount of contamination present, the resources available to your organization, and organizational policies.
11. When cleaning, start with high up surfaces such as walls and move downward. Include windows, doors, and build-in cabinetry. Because people do not contact ceilings, vacuuming/cleaning ceilings is rarely necessary. Clean all surfaces that may be touched or could transfer contamination: for example, although the spaces above cabinets are unlikely to be frequently touched, they may be used to store dishes and should therefore be cleaned to help reduce contamination of the dishes. In addition, although ceiling fans are not contacted, deposited dusts may be distributed when the fans are turned on.

12. Ensure cleaning prevents cross-contamination to other spaces: dump used cleaning water down drains in the suite and then clean the sink after; double-bag trash before bringing it out of the suite; change shoe covers as needed, and do not wear them outside of the suite; keep appliances and objects that are going to stay in the suite within the suite during cleanup; etc.
13. Vacuum accessible portions of ventilation systems (like in washrooms and above stoves) with a HEPA vacuum, then clean with appropriate cleaning agent. Change all filters.

Cleanup and disposal of unregulated substances

1. If a worker finds a suspected illicit substance, or is given one by a resident, they should contact their manager. Always follow workplaces procedures for cleaning and disposing of substances.
2. Put on nitrile gloves. If the substance is in powder form, also put on a half-face respirator with P100 filters and OV cartridges.
3. Loose powders should be cleaned following employer's procedures. Suggested guidance is below:
 - a. Loose powders on non-porous surfaces (like laminate tabletops and counters) should be gently wetted, then wiped away with a wetted surface wipe. Once the bulk of the substance is gone, wipe the surface down again and follow the procedures in the "general cleaning protocols" section.
 - b. Loose powders on porous surfaces (like carpets or upholstery) should be wetted down with a spray bottle and wiped away to the extent possible. If the surface needs to be vacuumed, use a HEPA vacuum and dispose of the filter and contents afterwards. Dispose of the vacuum contents following your employers' procedures.
4. For substances in pill form, or for powders already in bags:
 - a. Label a sealable clear plastic bag (such as a ziploc bag) with the date and what the suspected substance is. If unknown, write "unknown unregulated substance" on the bag.
 - b. Carefully place the substance in the labeled bag and seal it, being careful to not disturb the substance inside.
 - c. Place it in another sealable bag.
 - d. Do not leave the bag unattended – place it in a secure area.
 - e. Follow your workplace policy for disposal. This may include placing it in a secured sharps container, notifying your supervisor, placing it in a safe, and/or calling local law enforcement for disposal.

Cleaning PTAC Units

Cleaning PTAC units has been associated with high exposure risks in suites where suspected or confirmed substance use occurs. BC Housing is developing guidance for cleaning PTAC Units. The information below is considered interim guidance. There are two potential methods: hand cleaning and HEPA-vacuum cleaning. Hand cleaning is the preferred method. If other methods are used, higher respiratory protection may be required.

Filter and Coil Cleaning by Hand (Preferred Method)

1. Don PPE as required (respiratory protection: half face respirator with P100/OV).
2. Carefully slide out the filter. Do not shake to avoid suspending particles.
3. Place filter directly into a plastic bag for transport: seal the bag closed.
4. Wipe the interior of the unit with damp cloths and mild detergent.
5. Replace filter with a clean one.
6. Clean the area surrounding the PTAC unit following general cleaning guidelines as needed.
7. Transport the used filter to a ventilated, designated maintenance area, or to an outdoors location that is away from doors, windows, and HVAC intakes.
8. Vacuum filter using a HEPA-filtered vacuum.
9. Wipe filter frame and edges with damp cloth and mild detergent/disinfectant.
10. Allow to dry fully before reinstalling in another similar unit. Do not transfer filters from known drug use to non-user rooms.

Filter and Coil Cleaning by HEPA-Filtered Vacuum:

1. Don PPE as required (respiratory protection: half face respirator with P100/OV).
2. Carefully slide out the filter. Do not shake to avoid suspending particles.
3. Carefully HEPA-vacuum the filter, coils, and accessible interior. If possible, vacuum the filter outdoors, away from doors, windows, and HVAC intakes.
4. Wipe the interior of the unit with damp cloths and mild detergent.
5. Replace filter.
6. Clean the area surrounding the PTAC unit following general cleaning guidelines as needed.

Maintenance within the suite

This section applies to maintenance within the suite, such as plumbing or electrical work, but does not apply to junk removal or clean out of a space. For junk removal/clean out, follow the procedures outlined in the “move out or deep cleaning” section.

Maintenance workers, particularly outside contractors, may not be aware of hazards from unregulated substances. Ensure all maintenance workers have adequate training.

Consider asking on site workers to pre-clean surfaces that maintenance workers will be in contact with, such as counters, fixtures, and flooring (if they will kneel or lay on the flooring) following the “regular cleaning” guidelines earlier in this appendix. Talk to the resident ahead of time to ensure there will be adequate clearance time of any airborne unregulated substances before the maintenance person enters. This may involve asking the tenant to abstain from using substances prior to the maintenance worker entering, asking the tenant to open windows, and/or entering the space when the tenant is not present.

If emergency maintenance is required, and there is not adequate time for pre-cleaning, consider having disposable tyvek coveralls on hand for maintenance workers to use. If they are entering a space where someone has recently smoked unregulated substances, they may need to wear a respirator; respirators need to be fit-tested, so ensure this is communicated to the maintenance worker before they arrive on site.