

### What are VOCs?

Volatile Organic Compounds (VOC) are emitted as gases from certain solids and liquids. They become airborne because of the quick evaporation caused by a low boiling point. These VOCs mainly come from human-made chemicals that are used in different applications. Organic in this sense means that the structure of the molecule contains one or more carbon atoms. VOCs can be found in many products used both at the workplace and at home such as:

- Aerosol Coatings
- Architectural coatings
- Automotive refinishing products
- Cutback asphalt and emulsified asphalt
- Printing and inks,
- Paints
- Solvents
- Personal Care products
- Tobacco Smoke

Read the labels of any product before use. This will ensure you know if any amount of VOCs are in the product.

### Health effects

Short-term exposure to high levels of some VOCs may cause breathing problems, eye, nose, and throat irritation, as well as headaches.

Exposure to certain VOCs may increase the risk for birth defects, neurocognitive impairment, asthma, and cancer.

For example, in industrial workers, exposure to high levels of some VOCs (such as benzene and formaldehyde) has been linked with increased cancer rates.

At the low levels typically found in homes, however, there is essentially no risk of developing cancer for both benzene and formaldehyde.

Although the cancer risk for formaldehyde in homes is negligible, it can irritate if levels exceed Health Canada's Residential Indoor Air Quality for formaldehyde.

### Indoor Sources

VOCs can be emitted into indoor air from many sources, including:

- Vehicle exhaust,

- Cigarette smoke,
- Building materials, such as:
  - Paint, aerosol paint, glues, varnish, flooring materials solvents
- Products, such as:
  - air fresheners, cleaning products, Personal Care Products containing formaldehyde, i.e. nail polish, nail hardeners, hair straightening treatments, soaps, deodorants
- off-gassing (the release of gases) from furnishings

### How to Reduce Exposure

- Read and follow the product's SDS before use
- Follow proper precautions; i.e. ventilation, donning proper PPE, using the product as intended
- Avoid smoke, as second-hand smoke contains many different VOCs
- Choose low/ no VOC emitting products
- Read and follow product label instructions
- Open windows, turn on fans or use built-in ventilation/exhaust systems to ensure good ventilation when using products, such as:
  - glues, paints, varnishes, solvents, adhesives, cleaning products
- Minimizing the use of scented products such as plug-in or aerosol deodorizers (air fresheners)

### If there are people in the area, especially if they are highly sensitive you should:

Remove the chemical creating the VOC. If that is not possible, adequate ventilation is important. If people have extreme sensitization, adequate PPE such as a respirator (fit tested to this individual) may offer protection. If this does not work, they may need to leave the area when VOCs are present. If these individuals breathe in VOCs, monitoring them for symptoms is paramount. Monitor for symptoms listed on the product SDS sheet and breathing difficulty.

### Sources:

- <https://www.canada.ca/en/health-canada/services/air-quality/indoor-air-contaminants/volatile-organic-compounds.html>
- <https://www.canada.ca/en/environment-climate-change/services/managing-pollution/sources-industry/volatile-organic-compounds-consumer-commercial/overview.html>
- US National Library of Medicine National Institutes of Health
- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4847038/>

# Tool Box Talk

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When accidents and incidents happen on the jobsite, we are always quick to point the finger at lack of training, not following practices or procedures, or even improper supervision. The idea that the hazards and dangers associated with the job were not properly communicated to all of the workers is often missed.

Tool Box Talks can go by many names, and although formats may vary, these meetings all serve one purpose: to inform employees and contract workers. Tool Box Talks are short, informal, meetings between management and the workers on a jobsite. The goal of these meetings is to reinforce current safe job procedures, inform workers of new and/or relevant procedures, review recent safety violations/incidents, and ensure workers are up-to-date on the information required to complete their work safely.

Always use a Tool Box Talk form to record the meeting topic, date, who was in attendance, and any follow-up actions to be taken. Not only do these forms help with consistency of record keeping, but they also ensure that nothing is missed. At the end of the meeting have management sign off on the form.

One of the most important aspects of a Tool Box Talk is giving workers an opportunity to voice their concerns and ask questions. All employees have a right to participate in health and safety as it relates to their work and it is the supervisor or manager's responsibility to create an environment for them to do so. Once the meeting is over, and the form is filled out, it should be filed with other documented Tool Box Talks.

Remember that Tool Box Talks are short and informal, they are not meant to be intimidating. Use the opportunity to have fun and stay on top of what is necessary to keep safety culture a strong part of the business.

For a full listing of Tool Box Talk topics, visit: [www.scsaonline.ca/resources/tool-box-talks](http://www.scsaonline.ca/resources/tool-box-talks)

For a copy of the Tool Box Talk form, visit: [www.scsaonline.ca/pdf/Tool\\_Box\\_Meeting.pdf](http://www.scsaonline.ca/pdf/Tool_Box_Meeting.pdf)

## About the Saskatchewan Construction Safety Association

The Saskatchewan Construction Safety Association (SCSA) is an industry-funded, membership-based, nonprofit organization that provides cost-effective, accessible safety training and advice to employers and employees in the construction industry throughout the province to reduce the human and financial losses associated with injuries. Registered March 20, 1995, the SCSA is, and has been since inception, committed to injury prevention. Serving almost 10,000 member companies with business offices in both Regina and Saskatoon, the major business units of the association are Advisory Services, Business Development, Corporate Services, Program Services and Training. The mission of the SCSA is constructing safety leadership in Saskatchewan and the vision is to create the safest construction environment in Canada.