



## TOOLS OF THE TRADE

### Sharing Free Simple Chemical Hazard and Risk Assessment Tools for Small Business

Knowing what chemicals are present in a workplace and the risks they pose to workers provides the basis for effectively managing worker exposure and preventing illness. However, there is large number of chemicals commercially available (about 85,000), and relatively few have authoritative occupational exposure limits (OELs). Assessing the hazard and risk posed by most chemicals used in the workplace is therefore challenging for employers and employees alike.

Most businesses in Canada are small to medium sized and they also employ the majority of Canadians. However, small businesses are known to encounter serious OHS hazards and often face many challenges in their ability to adequately control OHS risks as compared with larger businesses. These businesses often find it difficult to meet the array of legislative requirements for training, assessment and management of workplace chemicals, and health and safety committees often report lacking the knowledge and information need to effectively carry out their role. There is also a lack of simple tools designed to help small businesses evaluate chemical risks.

To address this need, researchers at Ryerson University, and representatives from unions, health and safety associations along with industry partners formed a research team to develop a range of free tools to help small businesses assess chemical hazards and risks. This project has lasted several years and received funding from Ontario's Ministry of Labour and WorkSafeBC.

Through a user-centred design approach the team engaged with industry to develop and trial four assessment tools. The tools assess the level of hazard posed by workplace chemicals through using hazard banding, i.e., grouping chemicals based on how hazardous they are to human health and the environment. There are several hazard banding approaches available, but after detailed evaluation, the one we based our tools on was from [Arnone et al \(2015\)](#). For the latest tool, CHAP-Risk, information on how chemicals are used in the workplace is inputted to assess exposure and risk. Again, instead of developing our own risk assessment process, we evaluated currently available approaches and then based our approach on that of [COSHH Essentials](#). The innovation of the CHAP tools is therefore that they are based on established hazard and risk assessment approaches, are designed to be used by small and medium sized businesses, have been developed with local conditions in mind, and use information readily available to the workplace.

Advantages for small businesses of the electronic versions of the tools (i.e. eCHAP and CHAP-Risk) include: using MS Excel as a platform – software which is familiar and widely used; users don't need to access the internet to gain information or input data – all information needed is available on-site and once the tools are downloaded, they reside on local computer systems; and the tools enable export of the assessment results to other software.

Through the trial process, workplaces reported that using the tools helped improve their understanding of WHMIS and SDSs and improved the way in which they managed their chemicals.

Four versions of the CHAP tools, including the recently released CHAP-Risk, are available for free download from: <https://www.ryerson.ca/chemical-hazard-assessment-prioritization/>

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