



Voc Emissions & Air Quality

Federal Rules Prevail

CPCA ISSUE BACKGROUNDER

Canada Context for VOCs

In some instances Canada and the United States may take different approaches to the management of the risks related to emissions from Volatile Organic Compounds (VOC), despite the fact both countries may aim to address the same environmental objectives and outcomes. One example is the VOC Concentration Limits for Automotive Refinishing Products Regulations, where Canada has regulated them and the U.S. has guidelines in-place. In every case Canada's regulations are federal and are not generally exceeded by Provinces, but that is not the case in the United States, especially in regions of California. Both have similar limits and objectives. In addition, Canada also has legally binding international obligations to manage substances under several multilateral environmental agreements (Stockholm, Basel, Rotterdam etc.). The United States appear to have signed the Basel, Rotterdam and Stockholm Convention, but have not ratified the treaty because it required fundamental changes to TSCA and FIFRA and Senate approval. Thus they have not been fully ratified with only certain measures under that Convention implemented.

What are VOCs? Volatile organic compounds or VOCs are chemical compounds that occur both naturally and found in many manufactured products. The compounds are considered volatile due to their low boiling point, which allows them to evaporate under normal indoor temperatures and air pressure. The emissions released during evaporation contribute to the formation of precursors of ground-level ozone, such as fine particulate matter, like dust and smoke. It creates smog that can be dangerous for people with respiratory issues such as asthma. Many consumer products such as solvents, household cleansers, nail polish, carpets, plastics, paints, and stains contain VOCs that are emitted in homes and can affect indoor air quality. Some common substances identified as VOCs include formaldehyde, ethanol (ethyl alcohol) 2-propanol (isopropyl alcohol), hexanal.

Paint Industry Actions to Reduce VOCs

The paint and coatings industry demonstrated its strong commitment to stewardship and sustainability with the voluntary reduction of VOC content in products by as much as 70 per cent before federal regulations were even introduced under CEPA in 2009. Since the introduction of VOC regulations for architectural and automotive coatings, testing done by Environment and Climate Change Canada in 2015 concluded that total VOC emissions from paint decreased from 57 kilotonnes in 2005 to 16 kilotonnes in 2014, a reduction of 41 kilotonnes. Virtually all water-based products, 98 percent, met the VOC limits in their respective categories. The VOCs eliminated from paint represents a total reduction of 73.6 per cent in emissions, significantly exceeding the originally projected limit for the period. This is the equivalent of 3,280,000 cars or 2,788,000 light trucks/SUVs taken off the road annually. This has improved air quality and better human health for all.

While industry remains very active in ongoing regulatory development, it remains a priority for CPCA to promote regulatory compliance to its members with respect to established regulations for VOCs. This is done in concert with both Environment and Climate Change Canada and Health Canada primarily, but with other federal departments and agencies as well. Advocacy related to regulatory compliance is a primary focus and core competency of the association in support of the industry's ongoing sustainability efforts.

Government VOC Regulations

Both the United States and Canada have enacted national architectural coatings regulations for VOC emissions. It is important to note that the European Union's definition of VOCs differ from that used by Canada and the U.S. For example, texanol is considered VOC-exempt in the EU and not in Canada. These differences create confusion for businesses



with respect to regulatory compliance and various trade issues when comparing VOC emissions data from industries or products sold in both jurisdictions.

Canada implemented its first VOC regulation in June 2009 establishing concentration limits for VOCs in 14 categories of automotive refinishing products. The VOC concentration limits apply to products used to refinish, service, maintain, repair, restore, or modify a motor vehicle, mobile equipment or their parts. The Canadian VOC regulations were based on the more rigorous California Air Resources Board (CARB) rules, the most stringent in the world.

The United States began regulating VOC levels in 1999 through the Architectural and Industrial Maintenance (AIM) Coatings Rule. Canada implemented the Canadian Architectural Coatings VOC Regulation in 2009 modeled on the U.S. OTC (Ozone Transport Commission) for the North Eastern States. The Canadian regulation establishes mandatory, maximum allowable VOC concentration limits for 53 categories of architectural coatings and governs many products manufactured, imported, sold, or offered for sale in all Canadian provinces and territories.

CPCA has worked with government officials and its members through the development of these two important regulations and continues to actively promote compliance. CPCA awaits the publication of Canada's third VOC regulation later this year covering adhesives, sealants, caulks, multipurpose solvents, thinners, cleaners, aerosol products, and certain automotive maintenance products. This regulation will endorse the 2010 CARB Rule. It is anticipated that the final Third VOC regulation will come into effect on January 1, 2021, followed by a 2-year sell-through period for products on the shelf.

Provincial and State VOC Regulations

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Along with the consumer product and architectural coating VOC regulations, there are various U.S. jurisdictions that have also implemented regulations restricting VOC emissions on adhesives and sealant products. The Ozone Transport Commission (OTC) region (i.e. northeastern States, certain air districts in California, and Washington, D.C.) currently have region-specific adhesives and sealant VOC regulations. The California Air Resources Board (CARB) regulates air quality in the State and is subdivided into five air quality management districts including Bay Area, San Diego, San Joaquin Valley, Sacramento Area,

and South Coast. The South Coast has the strictest air quality and VOC regulations in North America designed to combat smog particularly in metropolitan Los Angeles.

In 2017 the Metro Vancouver Regional District proposed strengthening its air quality bylaws. Despite a significantly different climate than that of California and lacking the air quality challenges present in the South Coast Air Management District, Metro Vancouver proposed similar rigorous air quality standards to restrict the use of three categories of automotive refinish products with Low VOC content. These categories have already been approved for use by the federal government after rigorous assessment of the scientific data.

CPCA has made numerous submissions to Metro Vancouver air quality officials providing scientific evidence and industry data demonstrating that the proposed bylaw would only reduce total VOC emissions from all sources in the area by less than one per cent, while negatively impacting more than 500 auto body shops/collision centres in the Metro Vancouver region. Metro Vancouver officials decided **not** to proceed with the amendment based on data provided by CPCA.



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About CPCA

Since 1913, the Canadian Paint and Coatings Association has represented Canada's major paint and coatings manufacturers, and their industry suppliers and distributors in three primary product categories: architectural paints, industrial products and automotive coatings. In Canada, CPCA members have more than 261 paint manufacturing establishments, own more than 3,000 retail outlets, supply products to another 5,000 retail stores and more than 7,500 auto body shops. This represents annual retail sales of more than \$12.3 billion, employing directly and indirectly 86,300 employees.

