



Biocides For In-Can And Film Paint Preservation

Critical and Safe Ingredients

CPCA ISSUE BACKGROUNDER

Canada Context

Biocide use is regulated in Canada by the Pest Management Regulatory Agency (PMRA), which is a federal agency of Health Canada. In 2017, PMRA decided to severely restrict three registered biocides from their normal and effective use levels in Canada. CPCA responded by formally challenging PMRA's decision using study data and further exposure evidence to argue that the continued use of these biocides, at current levels, is not harmful to human health or the environment. It also argued that due to the lack of available alternative substances, the use of these biocides is crucial for the continued manufacturing of water-based paint products in Canada. As a result, PMRA has undertaken a re-evaluation of the biocides in question and is expected to respond to CPCA's formal objection. Other critical biocides used in coatings have been scheduled for re-evaluation over the next three years.

Nearly 50 per cent of the value of all paint and coatings sold in Canada is imported from the United States and Europe. Both jurisdictions have not been subject to similar biocide bans thereby placing Canadian made products at a competitive disadvantage.

Essential Biocides

The importance of biocide use for in-can preservation from microbial attacks cannot be overstated. The market growth and public acceptance of water-based paint and coatings over the past 25 years has only been possible with the use of biocides. In the efforts to protect waterborne paints from microbial growth manufacturers have enhanced plant hygiene and developed work practice controls that ensure product integrity throughout the supply chain. These efforts are part of a holistic approach to microbial control that ensures protection, but also optimizes the use of biocides to a level that is necessary to get the job done. Paint manufacturers across the globe are working with government officials responsible for environmental health and product safety to establish consensus on safe, reliable biocides for use in waterborne coatings.

What are biocides?

The term "biocides" has come to encompass a wide range of materials that control the growth of unwanted, harmful microorganisms in the environment such as mould, mildew, and algae. Biocides are absolutely needed to support public health, safety and environmental protection. Some of the common uses include:

- purification of drinking water sources
- cleaning contaminated surfaces in our homes and offices
- sanitizing dishes and cookware used in food preparation
- sterilizing surgical instruments for serious wounds

The benefits extend even beyond these familiar and accepted uses with a growing reliance on biocides in everyday products as part of broader public health protections. Microbe resistant surfaces are desired in hospitals and daycare facilities. Food processing, preparation, and storage facilities integrate biocides in packaging to safeguard the food supply. In many of these facilities, paint and coatings are used to provide smooth, cleanable surfaces on building components and work surfaces (i.e. walls, ceilings, and fixtures such as tables, counters, and shelves). Increasingly property developers and facility managers have sought out paint and coatings that have biocidal properties as an additional safeguard.

Biocides prevent diseases from spreading for those with serious illness and are more susceptible to diseases while in hospital. At the same time, the paint and coatings industry acknowledges that biocides can be hazardous substances at high levels, and embraces its responsibility to maintain proper safeguards when selecting and mixing biocides. This is accomplished by close industry collaboration with government agencies that are charged with protecting public health and the environment.



Paint Industry Reliance on Biocides

Microbial attack (*i.e. mold and mildew*) on painted surfaces is a wide-ranging and universal concern that has resulted in a global, coordinated strategy to combat it. The participants in this effort include:

1. the companies that make biocides, the raw material suppliers and distributors
2. the paint manufacturers that add biocides to their products
3. users of paints containing biocides who have come to expect the efficacy of these products to protect the painted surface and maintain desired conditions
4. the government agencies charged with protecting public health and the environment, who provide the oversight and continued scrutiny of the safety and effectiveness of biocidal product use in paint and coatings, cosmetics, plastics, fertilizers, etc.

The impact of microbial growth is not limited to degradation of applied paint films but also occurs during production and storage of coatings. Increasingly paint products have embraced waterborne technology, using formulations that are low in volatile organic compounds (VOC's) and solvents with lower emissions during application and drying. As with most water-based products, paints require the use of "in-can" preservatives to protect them from spoilage. Without these biocides, waterborne paint would fail in storage, first losing their viscosity, then progressing to malodour, before ultimately causing a complete product breakdown. In extreme cases, the microbial decomposition can generate gases that rupture the container.

The Canadian paint and coatings industry is a global leader in the re-use and recycling of leftover paint. Over 27 million kilograms of leftover paint was diverted from landfills in 2017, enough to paint 2.1 million homes. Without in-can biocide preservatives, leftover water-based paint could not be recycled due to product breakdown and microbial contamination.



Biocides protect valuable assets in your home



Biocides preserve left over paint for recycling



Biocides are critical for sustainability



CANADIAN PAINT
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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.

