

Hot Topics

handbook

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A material with a long legacy is bound to encounter controversy over its lifetime. And vinyl is no exception. Although its benefits have been well established over the years, for some vinyl continues to be the subject of both health and environmental concerns. The purpose of this brochure is to set the record straight on some of the most common misconceptions about vinyl that are circulating today. Here are the top

10 Hot Topics.

1: Life cycle assessment (LCA)

Many experts agree that to truly understand a product's environmental impact, its entire life cycle should be evaluated. This is known as LCA.

Environmental effects associated with a product's manufacture can be counterbalanced over time by a long, beneficial, low-impact life. For example, impacts associated with the production of vinyl building products such as windows, roofing, and cladding are far outweighed by decades of energy-saving benefits.

- Vinyl products perform favorably in terms of energy efficiency, thermal-insulating value, low contribution to greenhouse gases, low maintenance, and product durability
- Recent life-cycle studies show the health and environmental impacts of vinyl building products generally are comparable to or less than the impacts of alternatives

2: Worker safety

In the 1970s, scientists at a company making vinyl noticed several cases of a rare form of liver cancer among employees exposed to vinyl chloride monomer (VCM), an intermediate material in vinyl production, and reported it in the medical literature. Within two years, the U.S. Occupational Safety and Health Administration (OSHA) and the EPA issued regulations reducing workplace exposure and environmental emissions, and the entire vinyl industry re-engineered its production operations.

- There have been no documented cases of this cancer among vinyl workers whose careers began after the changes took effect

3: Vinyl chloride monomer (VCM)

The EPA estimated that the industry's VCM emissions have been reduced by more than 99% since the 1970s. Moreover, there is no confirmed case

on record in which a member of the general population has been harmed by exposure to VCM. No other confirmed community health effects have been linked to the presence of vinyl or VCM production facilities.

4: Dioxin

Vinyl is an extremely small source of dioxin, so small that levels in the environment would be essentially unchanged even if vinyl were not being manufactured and used every day in important products. The vinyl industry has studied and worked to reduce its contribution to dioxin. In fact, vinyl manufacturing creates on the order of seven grams of dioxin per year. Other dioxin sources include forest fires, volcanoes, burning wood in fireplaces, exhaust from diesel-powered vehicles, and manufacture of other building materials. Overall dioxin levels in the environment have been declining for more than 30 years, according to data from the U.S. Environmental Protection Agency (EPA). During this time, production and use of vinyl more than tripled. According to the EPA:

- Dioxin emissions from industrial sources in the United States have decreased by more than 90% since 1987
- Vinyl's dioxin emissions are a tiny fraction of the overall total

5: Indoor air quality (IAQ)

Properly installed vinyl products have no adverse impact on IAQ, and the small amount of volatile organic compounds (VOCs) emitted will dissipate quickly through normal ventilation. In fact, tests have shown that the initial odor of vinyl wallcoverings dissipates much faster than odors from most paints. Vinyl products are able to meet low VOC requirements in standards such as FloorScore™, Green Label Plus, and GREENGUARD.

IAQ can be affected by biological factors, as well. In hot and humid

climates, impermeable wallcoverings can cause condensation to occur inside the walls. Manufacturers have addressed this issue with innovations such as mildew-resistant or "microvented" products that allow moisture to circulate.

- By discouraging moisture and resulting microbial growth, vinyl flooring products and vinyl-backed carpet are some of the vinyl products that contribute to IAQ

6: Recyclability

Approximately 1 billion pounds of scrap, trim, and off-spec material are recycled from vinyl materials processes annually. In fact, post-industrial vinyl recycling has proven so viable that its price is indexed in leading plastic industry publications.

- In addition, an estimated 50 million pounds of post-consumer vinyl are recycled into second-generation products
- Manufacturers' take-back programs, such as those for end of life vinyl-backed carpeting, wallcovering, and roofing have been very successful

7: Hydrogen chloride (HCl)

HCl is a byproduct of burning vinyl, but it does not incapacitate or become dangerous until it reaches concentrations far higher than those that have been measured in actual fires. In real fires, HCl concentration declines rapidly as it adheres to surfaces. Because it is an irritant with a pungent odor, HCl serves as a warning to evacuate. Since the 1970s, fire incidence and deaths have declined steadily.

8: Plasticizers, stabilizers, and other vinyl additives

Because of vinyl's physical nature, additives such as plasticizers, stabilizers and antioxidants are tightly held in the fabricated product, limiting the potential for human contact or release into the environment. Concerns in recent

years regarding exposure to a certain family of plasticizers called phthalates have led to restrictions on their use in toys and childcare articles despite the fact that consumer and health agencies have not found actual harm from exposure to them. Alternative plasticizers developed and tested by several companies are now being used in a number of such vinyl products. The accumulated scientific data from years of research into this issue suggest that phthalates do not pose a threat to human health or well-being.

- Vinyl additives have been studied closely by independent scientists, the federal government, and industry and used safely for more than 50 years

9: Incineration

Vinyl can be safely incinerated and its energy recaptured and reused. A large-scale study by the American Society of Mechanical Engineers found no link between the chlorine content of waste like vinyl and dioxin emissions from controlled combustion processes. Instead, the study stated, the operating conditions of combustors are the critical factor in dioxin generation. Other scientific studies confirmed this conclusion.

10: Chlorine

Vinyl does not harm the atmosphere. Once chlorine is processed into vinyl, it is chemically locked into the product more tightly than it was in salt. When vinyl is recycled, landfilled, or disposed of in a modern incinerator, chlorine gas is not released into the atmosphere.

For more information, please visit our websites or contact the VI directly.

not to handle

Too hot



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