

Polyvinyl Chloride (PVC)

What is PVC?

PVC is an abbreviation for polyvinyl chloride and sometimes simply referred to as “vinyl”. PVC is synthetic plastic made of chlorine (derived from industrial grade salt) and carbon (derived predominantly from oil/gas via ethylene).

What are the benefits of PVC?

PVC is a very durable plastic. It has the lowest carbon footprint of any plastic and because it is a thermoplastic, it is 100% recyclable.

Is the use of PVC regulated?

The use of PVC is not regulated by any regulatory body in the U.S. or globally, however certain phthalates used to make PVC flexible are regulated in products such as toys or articles that will be “mouthed” by children.

Does PVC release dioxins or other emissions?

PVC is inert. This means that it will not emit any chemical emissions. Dioxins may be emitted when PVC is combusted (burned), however most end of life disposal options that involve combustion are regulated and controlled to prevent dioxin emissions.

What environmental concerns are related to PVC production?

- Dioxins are a by-product of PVC production. Strict environmental controls prevent dioxins from being released.
- PVC can be made in several ways. One method involves mercury. The mercury process is banned in Europe and is not used in the USA.
- PVC is made from vinyl chloride monomer – a known carcinogen, however the VCM reacts and does not remain in the flooring.

Why do some have a negative perception of PVC?

The negative perception associated with PVC began in the 1980s with GreenPeace. Patrick Moore, a Greenpeace Leader at the time, later recanted his position on PVC in his book, *Why I Left GreenPeace*, and stated the “environmental movement is not always guided by science. Vinyl is one of the most sustainable, flexible and cost-effective materials available. Alternatives are more expensive, less versatile and often pose unknown health or environmental risks.”

Today this perception lingers as some organizations include PVC on “red lists”, although many of the concerns have been addressed or are no longer issues.



TABLE 1: LIFE CYCLE CONSIDERATIONS FOR “RESPONSIBLE VINYL” FLOORING

PRODUCTION	USE	END OF LIFE
SAVE PRODUCTION ✓ No mercury in the production Process	APPLICATION ✓ Products manageable after use ✓ Windows, pipes, flooring	✓ Recycling or Take Back Program
SAVE ADDITIVES ✓ No heavy metal stabilizers ✓ No ortho-phthalate plasticizers		✓ Commitment and Innovation

*Braungart, Michael, *Chemical Industry Digest*. June 2017