

paint chemistry

What's in a can of paint?

Paint is a simple mixture of ingredients, including pigments, a binder, and a thinner (in latex paint, it is water; in solvent paint it is a petroleum solvent).

Pigments provide the texture, color, and hiding properties of paint. The pigments, usually in the form of dry powder, can be organic (containing carbon), inorganic (no carbon), synthetic, or natural.

The **binder** consists of synthetic and natural resins, which start out as liquids but dry to form durable films. The properties of the binder largely determine the properties of the paint film. In waterborne coatings, the binder is usually a latex emulsion composed of vinyl and/or acrylic copolymers. In solvent-based coatings, the binder is usually an alkyd, which is a natural drying oil that is chemically modified to be especially tough and long-lasting.

Water is the thinner in today's latex emulsion paints—the ultimate choice for the environment and ease of use. Solvent-based paints are thinned with petroleum solvent, so they require more care to employ responsibly. Over the years, use of solvent-based paint has diminished because of concerns about volatile organic compounds (VOCs). Solvent-based paints, however, still play an important role today because of their unique durability and adhesion properties.

North America's iconic paint brand



Flanders, NJ – WHC program certified
Pell City, AL – WHC program certified
Johnstown, NY – WHC program to begin
Montvale, NJ – WHC program soon
to be certified

