

Solvent/Cleaners/Acetone/Thinners

Solvents

Acetone/Thinner is a good solvent for many plastics and some synthetic fibers. It is used for thinning Unsaturated polyester resin, cleaning tools used with it, and dissolving two-part epoxies and superglue before they harden.

It is used as one of the volatile components of some paints and varnishes. As a heavy-duty degreaser, it is useful in the preparation of metal prior to painting. It is also useful for high reliability soldering applications to remove rosin flux after soldering is complete; this helps to prevent the rusty bolt effect.

Acetone/Thinner is used as a solvent by the pharmaceutical industry and as a denaturant in denatured alcohol. Acetone is also present as an excipient in some pharmaceutical drugs.

Although itself flammable, acetone/Thinner is used extensively as a solvent for the safe transportation and storage of acetylene, which cannot be safely pressurized as a pure compound. Vessels containing a porous material are first filled with acetone followed by acetylene, which dissolves into the acetone. One liter of acetone can dissolve around 250 liters of acetylene at a pressure of 10 bar.

Domestic and other uses:

Acetone/Thinner is often the primary component in cleaning agents such as nail polish remover. Acetone is a component of superglue remover and easily removes residues from glass and porcelain.

Acetone is often used for vapor polishing of printing artifacts on 3D-printed models printed with ABS plastic. The technique, called acetone vapor bath smoothing, involves placing the printed part in a sealed chamber containing a small amount of acetone, and heating to around 80 degrees Celsius for 10 minutes.

This creates a vapor of acetone in the container. The acetone condenses evenly all over the part, causing the surface to soften and liquefy. Surface tension then smooths the semi-liquid plastic.

When the part is removed from the chamber, the acetone component evaporates leaving a glassy-smooth part free of striation, patterning, and visible layer edges, common features in untreated 3D printed parts.