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## Cyanoacrylate curing or polymerization process:

The structure of the alkyl 2-cyanoacrylates  $C=C$

$$\begin{array}{c} X \\ / \\ C=C \\ \backslash \\ Y \end{array}$$

Where X=CN and Y=a variety of electron withdrawing groups, especially methyl and ethyl acrylate permits ready anionic polymerization initiated by weak bases such as water or alcohol at ambient temperatures. Water is, of course, virtually everywhere and even trace amounts on a substrate are sufficient to initiate the curing reaction. Activators use trace amounts of amine and other proprietary chemicals in a solvent carrier to accelerate the polymerization.

The actual mechanism involves polarization of the carbon-carbon double bond by a negative ion which is stabilized by the nitrile and alkoxycarbonyl groups allowing the polymerization to proceed to high molecular weight and useful adhesive properties.

### ***STICK FAST™ ADHESIVES***

Stick Fast™ Cyanoacrylate adhesive uses the ethyl acrylate for a majority of CAs because of its high bonding strength and surface insensitive properties. Flexible and CA Wood Finish have a proprietary modified acrylate that also has surface insensitive properties plus unique formulation for specialized applications.