# Fluoropolymer aqueous emulsions

**Excerpts from: *Guide to safe handling of fluoropolymer resins* 4th ed. Society of the Plastics Industry BP-101; 2005**

https://intechservices.com/content/SPI_Guide_for_Safe_Handling_of_Fluoropolymer_Resins.pdf

**Coating / Impregnation** (p. 22) - ***presence of carboxylic acids in PTFE emulsions***

Even though fluoropolymer dispersions are not classified as hazardous, they may contain small amounts of an ingredient used as a polymerization aid (FPA - fluoropolymer polymerization aid) that can be retained in the body for a long time. Additional information on FPAs may be found in Appendix E. People working with dispersions should follow best practices to avoid exposure through skin contact, ingestion, or inhalation of dust or vapor from fluoropolymer dispersions.

From Appendix E:
"Fluoropolymer dispersions are an aqueous form of fluoropolymer typically used for coating metal and glass cloth… The purpose of this guide is to provide safe handling information to dispersion processors, since these products utilize a fluoropolymer polymerization aid (FPA) during their manufacture."

"FPAs are members of a class of commercially available perfluoroalkyl carboxylate surfactants" [e.g., APFO, or PFOA ammonium salt] "FPAs are used to suspend and emulsify some fluoropolymers during manufacture or industrial use and are typically used in concentrations less than 0.5%."

"APFO is…used in a dilute form as a polymerization emulsifier. Once the polymerization is complete, the APFO is normally removed during finishing processes that result in dry forms of fluoropolymer products. Trace amounts of APFO may be present in finished fluoropolymer resins. Since these finishing steps are not applied to aqueous dispersons, the APFO added during polymerization is usually present in dispersion products as sold."