

# From One Engineer to Another: Jim Hisert



## No-Clean Flux

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You may notice that many of the solar grade fluxes and solder pastes are designated 'no-clean'. This classification is used to describe a flux or flux vehicle that does not need to be removed (cleaned) after soldering. In much the same way as the mosquito in "Jurassic Park" was preserved, flux activators are also encapsulated within no-clean flux as it cures during a typical heating cycle. Unless you plan on fully removing the no-clean flux residue with a commercially available cleaner specified for that flux, it is better to leave the residue alone. Partial cleaning of no-clean residues can uncover small amounts of flux activators – like uncovering the mosquito in the tree rosin. The flux activators have the potential to cause corrosion or electro-migration when exposed – so make sure you get the right solvent if you do plan on cleaning these materials!



It might sound scary, but no-clean fluxes are very common in today's electronics assembly – including military, medical, and high-reliability applications. There is no question that electronics assemblers and material suppliers have done their due diligence in qualifying no-clean materials. In the end you can put your mind at ease, modern no-clean materials are classified as such after standardized testing for electro-migration and surface insulation resistance. This testing allows flux suppliers to safely provide no-clean materials that can function well in various soldering situations and eliminate the need for a post-assembly cleaning process.