

JPL ANALYTICAL CHEMISTRY LABORATORY

K003

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Thermal and Propulsion Section 3530*

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Subject: Low Volatility Residue Test for Accutech Ultra Clean 91300 Gloves

Purpose:

The purpose of this test is to determine if clean room gloves will deposit a significant level of plasticizer or other non-particulate additives on contamination sensitive hardware. There were no standards or specifications found that specifically addresses this issue.

Procedure:

Physical Transfer of Residue

The gloves were rubbed on a test glass surface for 30 seconds. The glass surface was then rinsed with solvent and analyzed by FTIR.

Surface Rinse:

The glove was rinsed with a solvent and analyzed by FTIR. This is a quick surface rinse and not intended to fully extract the material.

Acceptability:

The materials should physically transfer less than 0.1 microgram per square centimeter of residue. If the gloves are wet with solvents when handling sensitive parts, the surface rinse should remove less than 1.0 microgram per square centimeter (1.0 ug/cm²) of material.

Results:

The Accutech glove is acceptable for dry handling of parts. It physically transfers less than **0.05 ug/cm²** of residue. An acetone rinse extracts aliphatic hydrocarbon and ester at a level of ~5ug/cm². This is a lower level than most gloves tested, however, care must be used not to let solvent wet gloves to touch sensitive parts.

It should be noted that most elastic gloves (nitrile or latex) will solvent extract residue. Vinyl gloves are generally the worst.