



Date: October 11, 2012

To: Whom It May Concern

Subject: Super Erecta/Super Adjustable Shelving – Outgassing Characteristics

Outgassing is the tendency of polymeric materials to exude vapors or volatile compounds that can cause airborne particulate contamination within Cleanrooms or Cleanroom areas.

A comprehensive evaluation of the polymer materials used in the construction of the Super Erecta shelving system sleeves, wedge, and shelf corner release with respect to ASTM E595-07 and NASA SP-R-0022A standards has allowed us to determine that the overall Collected Volatile Condensable Material (CVCM) value is less than 0.08%.

There is no standard for directly interpreting the data for use in Cleanrooms or Cleanroom areas, and neither Federal Standard 209E or the ISO 14644-1 Standard directly addresses the requirements for outgassing or the contribution of outgassing to Cleanroom classification. However, historically NASA has used a CVCM result of 0.10% or greater to reject polymeric materials for use in spacecraft application.

Therefore, the use of polymeric materials that do not exceed NASA limitations indicate that their tendency to exude volatile compounds is relatively low. In summary, Super Erecta/Super Adjustable shelving systems should not contribute significantly to airborne particulate contamination due to outgassing in Cleanrooms or Cleanroom areas.

Sincerely,

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