Outgassing of Marking Inks

Due to the high outgassing properties of marking inks, we recommend the following precautions:

Use as little ink as possible. Engraving, etching or approved removable labels should be used in lieu of ink where possible. Only apply essential information directly to flight hardware.

Use the lowest outgassing materials available. The Materials Technology Division has tested room temperature curing marking inks with TML's between 6 and 16%. Pigmented epoxies exits that can meet the outgassing requirements that can be used as marking materials.

Use as high a temperature cure as possible. One ink that tested had a TML of 8% when cured at room temperature. The same ink had a TML of 3.5% when cured at 88°C for 2 hours. It is important to recognize that the %CVCM can be even more important than the %TML. Consequently, reducing %CVCM are of primary importance. Such efforts usually result in lower %TML.

Do not rely on over coating to prevent outgassing from a material. Although some materials may be more effective as overcoats than others, tests performed show that many over coating materials generally believed to be effective, are not.