



ORGANIC VOLATILE IMPURITIES / RESIDUAL SOLVENTS
(PPS247, Rev. 1.3, 02/18, KMC)

RE: N,N-DimethylFormamide (DMF) – all grades sold by Greenfield Global USA Inc. – Organic Volatile Impurities, or Class 1, 2, and 3 Residual Solvents, as defined by the current USP/NF General Chapter <467>.

Class 1 Solvents: Greenfield Global USA Inc. maintains dedicated storage and handling systems for DimethylFormamide (DMF). Greenfield Global USA Inc. neither uses nor has any reason to suspect that any other Class 1 solvents are produced in the manufacturing process. These Class 1 solvents include Benzene, Carbon tetrachloride, 1,2-Dichloroethane, 1,1-Dichloroethene, and 1,1,1-Trichloroethane.

Class 2 Solvents: Greenfield Global USA Inc. maintains dedicated storage and handling systems for N,N-DimethylFormamide (DMF) and neither uses nor has any reason to suspect that Class 2 solvents, including but not limited to Chloroform, 1,4-Dioxane, Methylene Chloride, Trichloroethylene, are produced in the manufacturing process.

N,N-DimethylFormamide (DMF) may contain up to 100ppm of Methanol. Methanol is NOT used as a solvent, but may appear in DMF as an impurity. The typical level for Methanol content in N,N-DimethylFormamide (DMF) is far below the concentration limit stated in Table 2 “Class 2 Residual solvents” found in the current USP/NF General Chapter <467>. Actual Methanol content is reported on the lot-specific Certificate of Analysis.

N,N-DimethylFormamide (DMF) itself would be considered a Class 2 Residual Solvent if found in any other solvent.

Class 3 Solvents: N,N-DimethylFormamide (DMF) may contain up to 3ppm of Formic Acid. Typical levels of this contaminant are in amounts that are far below the concentration limit stated in Table 3 “Class 3 Residual solvents” found in the current USP/NF General Chapter <467>.

Other Residual Solvents: N,N-DimethylFormamide (DMF) does not contain any Other Residual Solvents found in Table 4 “Other Residual Solvents” found in the current USP/NF General Chapter <467>.

It is the responsibility of the end user to determine suitability of any chemical for their intended applications.

This statement is valid and in effect for all products and lot numbers described herein until otherwise notified in writing by Greenfield Global USA Inc.