

BEST PRACTICE FOR DETERMINING FREE FORMALDEHYDE LEVELS IN LIQUID AMINOPLAST RESINS USING EN 1243:2011

Based on the results of a Round Robin performed by the Formacare Analytical Task Force in November 2015, the following recommendations are given to anyone performing a determination of free formaldehyde according to EN 1243:2011 in liquid adhesives (e.g. wood glues and impregnating resins) containing formaldehyde, and/or urea and/or melamine, excluding etherified adhesives.

- Ensure that your procedure complies fully with the standard.
- Use a formaldehyde standard solution (concentration between 0.05 and 0.08 %) to check the procedure against the true value.
- If the concentration found in minimum 3 titrations differs from the true value by more than the double standard deviation, check your procedure step by step against the standard procedure.
- Check for systematic errors (e.g. volumetric devices, analytical balance etc.).
- The recommended solvent is DMSO.
- The procedure should be carried out quickly and continuously without unnecessary interruptions.
- The sample weight should be in the range 5 to 10 grams.
- Ensure that the temperature of the cooling device, the reagents and the sample solution is as near to 0°C as possible.
- Each determination of free formaldehyde should be based on at least a double determination.
- For free formaldehyde levels <0.1 % the relative standard deviation should be <10 %.
- For free formaldehyde levels of 0.1 % and above the relative standard deviation should be <5 %.
- The lowest variances will be found using a computerized titration system.

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