

Summary - Cleaning Verification – Investigating Unknown Peaks in Chromatography

This procedure provides recommendations for conducting an investigation into unknown chromatographic peaks or spots/streaks observed during cleaning verification. Some unknown peaks may warrant further investigation when observed during verification testing for product and/or cleaning agent residues. A step-wise, methodical investigation should follow any decision to investigate the unknown peak.

Because unknown peaks observed in chromatograms for cleaning verification samples cannot be assumed to provide an equivalent response to a known standard, specific compound, Relative Response Factors (RRF) are typically not assigned to unknown peaks.

Single and Multiple Peaks:

Where more than one unknown peak appears in the chromatography, each peak should be evaluated individually (single peak evaluation).

Comparison of an unknown peak to the RAL determines if an investigation is initiated. The investigation of the sum of unknown peaks is technically challenging and

Limits

Response Factor

If an unknown peak is subsequently identified and a corresponding RRF established, the requirements of the investigation and the cleaning limit for that peak may be impacted.

Solvent/Cleaning Agents

Compare the peak to the solvents and/or cleaning agents from the manufacturing process and/or cleaning process to determine if the unknown peak is a result of solvent or cleaning agent interference. If an investigation into an unknown peak determines that it is due to an interfering solvent, then future observations of this peak would not require repeated identification of that peak.

The peak may also be the result of product degradation or reaction with the cleaning agent. If an investigation into an unknown peak determines that it is due to product degradation, then future observations of this peak would not require repeated identification of that peak. .

Sampling

Determine if the unknown peak is due to sample preparation, such as residues from lab gloves, sample containers or caps.

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