

Standard Operating Procedure

Title: Laboratory Results Out of Specification Investigation

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- 2.2. **Finished Goods:** Samples to be retested include the original set of samples (if available), a resample of the entire load, a recently passed batch from retention samples and a stability sample of the same finished goods code.
- 2.3. **Stability, Trial, Process Validation and Complaints:** Samples to be retested include the original set (if available) or additional samples from the stability or trial batches and, if applicable, a retention sample of the same solution or finished goods code.
- The original test preparation may be used as one of the samples for a retest.
- 2.4. The number of samples required for a relative quantitative retest is nine (9), tested in duplicate. In cases where there are not enough samples available, the maximum number of samples available should be used.
- 2.5. For empirical quantitative tests, e.g. pH, specific optical rotation, colour of solution, refractive index, etc., the number of retests is three (3) or as specified for pH by Laboratory Manager.

3. Procedure for Retest

Based on the type of analysis to be performed, the retest will follow an outlined procedure (part C) of the OOS Investigation Report.

3.1. Quantitative External Standard

This category covers any test which generates a quantitative result determined by comparison to a standard reference material, e.g. HPLC, UV-Vis, etc.

3.1.1. Two dilutions from a common stock standard or two duplicates from a common stock standard **IS NOT ACCEPTABLE**. Prepare either two independent standard preparations or if a standard preparation exists, prepare one additional standard preparation. It is essential that each standard be prepared individually.

3.1.2. Ensure that the instrument is in calibration and that all system suitability tests have been run.

3.1.3. Each standard preparation is analysed before the retest samples are analysed.

3.1.4. The relative error between the two standard preparations is calculated by the following formula:

$$\text{Relative Error} = \frac{200 \times (C1/r1) - (C2/r2)}{C1/r1 + (C2/r2)}$$

Where C1, C2 = the concentrations of std preparation 1 & 2 respectively
r1, r2 = the average responses for standard preparation 1 & 2 respectively.

The relative error must not be more than 2.0%. If the error is greater than 2.0% discard the standard preparations and repeat using two new standards.

If a realistic precision cannot be attained an analyst may proceed with the consent of the Laboratory Manager.

3.1.5. Calculate the result for each retest. These are the reported values.

3.1.6. **Acceptance Criteria.** If the results are within specification then a classification of acceptance is given.

Rejection of data

(i) If an aberrant result is known to be caused by Laboratory error, the value can be excluded from the set of data used to evaluate the final result.

(ii) Otherwise, the Dixon's Outliers Test can be applied to establish whether a