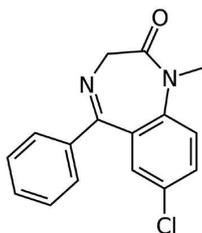
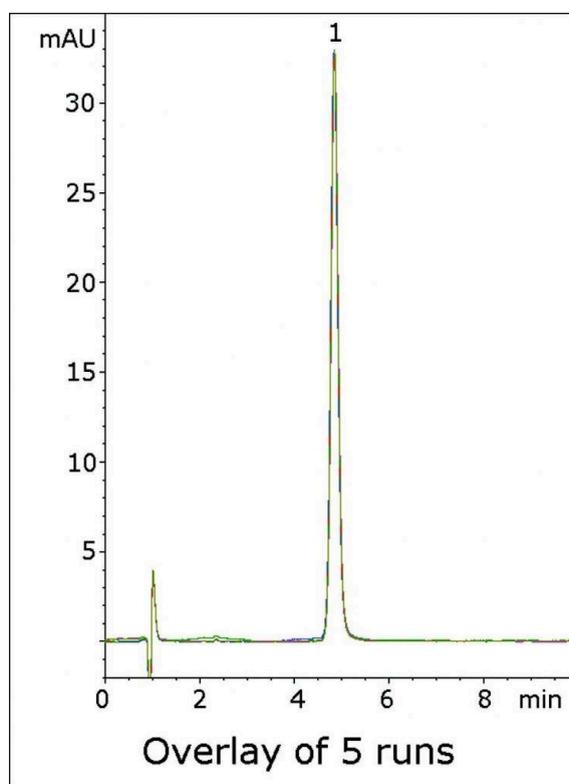


## Diazepam Tablet Analyzed with HPLC - AppNote

### Excellent Peak Shape and Precision for a Benzodiazepine Compound Valium®

This Isocratic Method shows how using 0.1% Trifluoroacetic Acid (*TFA*) in the Mobile Phase can produce a Peak with excellent Efficiency and Symmetry. In the USP Assay Method, System Suitability requires that a tailing factor of not more than 2.0 be obtained for the API, and this Method produces a Peak that is well within the Specification.

An overlay of Five consecutive chromatograms is shown in the Figure to illustrate the Precision and Robustness of the Method.



**Peak:**  
Diazepam

### Method Conditions

**Column:** Cogent Bidentate C8™, 4 μm, 100Å

**Catalog No.:** 40008-75P  
**Dimensions:** 4.6 x 75 mm

**Mobile Phase:** 70:30 DI Water / Acetonitrile with 0.1% Trifluoroacetic Acid (TFA) v/v  
**Injection vol.:** 10 µL  
**Flow rate:** 1.0 mL / minute  
**Detection:** UV @ 254 nm

**Sample Preparation:** 10mg of a ground Valium® tablet was added to a 10mL volumetric flask containing a portion of a 50:50 Acetonitrile / DI Water diluent. The flask was sonicated 10 minutes and diluted to mark. A portion was filtered with a 0.45µm Nylon Syringe Filter (MICROSOLV Tech Corp.).

**t<sub>o</sub> :** 0.9 minutes

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**Note:** *Diazepam is a benzodiazepine used to treat conditions such as anxiety, muscle spasms, insomnia, seizures, and to control agitation caused by alcohol withdrawal. It is marketed as Valium® by Hoffmann-La Roche, although generic versions are currently available.*

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**Attachment No 190 Diazepam Tablet Analyzed with HPLC pdf 0.3 Mb**

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