

Status: Currently Official on 16-Feb-2025  
 Official Date: Official Prior to 2013  
 Document Type: Reagents  
 DocId: GUID-BBFB9FF0-E860-4A51-A131-D6998FD69BDB\_2\_en-US  
 DOI: [https://doi.org/10.31003/USPNF\\_R1480\\_02\\_01](https://doi.org/10.31003/USPNF_R1480_02_01)  
 DOI Ref: jlw3e

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## Sodium Sulfate, Anhydrous,

$\text{Na}_2\text{SO}_4$  142.04 CAS RN<sup>®</sup>: 7757-82-6.—Use ACS reagent grade.

For use in assaying alkaloids by gas–liquid chromatography, it conforms to the following additional test.

**Suitability for Alkaloid Assays:** Transfer about 10 mg of atropine, accurately weighed, to a 25-mL volumetric flask, dissolve in and dilute with alcohol to volume. Pipet 3 mL of the solution into each of two 60-mL separators, and add to each 10 mL of water, 1 mL of 1 N sodium hydroxide, and 10 mL of chloroform. Shake thoroughly, and allow the layers to separate. Filter the organic phase from one separator through phase-separating paper, previously washed with 5 mL of chloroform, supported in a funnel, and collect the filtrate in a suitable container. Add 10 mL of chloroform to the separator, shake thoroughly, and filter the organic layer through the same phase-separating paper, collecting and combining the filtrates in the same container. Designate the combined filtrates as *Solution A*. Filter the organic phase from the second separator through 30 g of the Anhydrous Sodium Sulfate, supported on a pledget of glass wool in a small funnel, and previously washed with chloroform, and collect the filtrate in a suitable container. Add 10 mL of chloroform to the separator, shake thoroughly, and filter the organic layer through the same portion of anhydrous sodium sulfate, collecting and combining the two filtrates in the same container. Designate the combined filtrates as *Solution B*. Evaporate the two solutions in vacuum to a volume of about 1 mL. Inject an accurately measured volume of *Solution A* into a suitable gas chromatograph, and record the peak height. Repeat the determination with a second accurately measured volume of *Solution A*, record the peak height, and obtain the average of the two results. In a similar manner, determine the peak height of two portions of *Solution B*, and obtain the average of the results. The average value obtained for *Solution B* is within 5.0% of the value obtained for *Solution A*. Under typical conditions, the gas chromatograph contains a 4-mm × 1.2-m glass column packed with 3% phase G3 on packing S1A. After curing and conditioning, the column temperature is maintained at 210°, the injector port temperature at 225°, and the detector block temperature at 240° during the determinations. The carrier gas is helium, flowing at a rate of 60 mL per minute.

**Auxiliary Information** - Please [check for your question in the FAQs](#) before contacting USP.

Topic/Question	Contact	Expert Committee
SODIUM SULFATE, ANHYDROUS	<a href="#">Margareth R.C. Marques</a> Principal Scientific Liaison	HDQ Headquarters

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