

Information and Tips for Effective Retrieval of Powdered Material from Vials

BACKGROUND:

USP currently supplies more than 3,000 Primary Reference Standards (“RS”). When approved for use as comparison standards in a USP compendium, they become part of applicable standards; see for example monographs or applicable General Chapters published in *USP-NF*, *Food Chemicals Codex*, *Medicines Compendium* or *Dietary Supplements Compendium*.

Some of USP’s RS are supplied in small quantities: 15mg, 10mg or even less. This is typically done because of challenges obtaining the bulk powdered material for qualification or because the monograph procedures need only a small amount of RS. Since 2004, vials with v-shaped bottoms have been used for most RS supplied in small quantities (10 mg or less). Use of these vials was implemented to help facilitate retrieval of the powdered material.

USP’s Quality Control process includes a daily fill verification of all RS being filled. This fill verification helps ensure that the labeled amount can be retrieved from the vial. We understand that sometimes retrieving the required amount of RS powdered material from a vial can present a challenge. Below are a few suggestions which will help with the effective retrieval of USP RS powdered material from vials delivered in small or large quantities.

TIPS:

- 1. Use the USP Reference Standard at room temperature.** If the RS is stored at a reduced temperature, allow it to reach room temperature before opening the vial to remove an aliquot of RS material.
- 2. Control static electricity.** If not properly controlled, static electricity can affect balances and cause inaccurate readings. USP suggests using an ionizer or static eliminator on the spatula, balance and weighing vessel prior to opening the vial.
- 3. Tap the vial prior to removing the stopper.** It is often helpful to carefully tap the vial on the bench top to gather the RS material in the bottom of the vial. If using an anti-static device, attempt to eliminate any static inside the vial to minimize material adhering to the vial walls.
- 4. Minimize handling steps.** Weighing the material directly into the volumetric flask or other laboratory glassware being used to prepare the solution may reduce the risk of losing material due to static.

USP Headquarters

12601 Twinbrook Parkway
Rockville, MD 20852-1790 USA
+1-301-881-0666

Europe/Middle East/Africa

Münchensteinerstrasse 41
CH-4052 Basel, Switzerland
+41 (0)61 316 30 10

USP-India Private Limited

IKP Knowledge Park
Turkapally Village, Genome Valley
Shameerpet, Ranga Reddy District
Hyderabad 500 078, A.P., India
+91-40-4448-8888

USP-China

Building 11
Lane 67 Libing Road
Zhangjiang Hi-Tech Park
201203, Shanghai, China
+86-21-51370600

USP-Brazil

Avenida Ceci, 1600-Tamboré
Barueri-SP
06460-120, Brazil
+55-11-3245-6400

5. Use the right tool for v-bottom vials. When removing material from v-bottom vials, a spatula with an angled point such as the one shown below may be more effective than the typical weighing spatula.



This document has been provided for informational purposes only. Please contact Reference Standard Technical Services at rstech@usp.org if you have any questions.