**Safety:** Wear the appropriate PPE when working in the Lab.

**Purpose:** To determine the bulk density of crystalline salt samples

Background Information:

It is sometimes important to know how much space a certain weight of a crystalline product will take up in transport and/or storage. This is where the term bulk density is used. Bulk density for crystalline samples is analogous to the density for liquid samples. It denotes the weight of a certain volume of crystalline sample or the volume of a certain weight of a crystalline sample. Bulk density is an intrinsic property of the material being tested and does not depend on the amount of the sample present. The following procedure is used to determine bulk density.

**Scope:**

A crystalline sample is added to the flask to a known volume. The mass of the sample in the flask is measured. The bulk density is calculated and converted to lb./ft.3.

Equipment:

* 100-mL volumetric flask
* Funnel
* Small spatula
* Weighing Balance

**Procedure:**

* 1. A 100-mL volumetric flask is placed on the balance and tared to zero.
  2. The flask is filled with the crystalline salt sample until the level reaches the etched line.
  3. The cylinder is placed back on the balance and weight is recorded on QA-Lab-10-F1.
  4. The bulk density can be determined by using the following calculation

**weight of salt sample ( g ) / Volume of salt sample ( mL ) = bulk density ( g/mL )**

**g / mL x 62.4 = lb. / ft3**

* 1. The bulk density in g/mL and lb./ft.3 are recorded on QA-Lab-10-F1.
  2. Completed QA-Lab-10-F1 forms are filed in Quality Lab

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| Revision  Number | Revision  Date | Effective  Date | Revision  Author | Quality  Approval | Production Approval | Revision Description |
| 00 | 03/28/06 | 03/28/06 | Carl Mooney |  |  | New Document |
| 02 | 06/29/09 | 06/29/09 | Stacey Lindsey |  |  | -Removed compacting the sample initially  -3 year revision  -Placed on new form |
| 03 | 8/16/12 | 8/16/12 | Stephen Ballew | Deborah  Durbin | Jason  Bumgarner | -3 year revision  -Placed on new form |
| 04 | 9/10/12 | 9/10/12 | L.Martin | D.Durbin | J.Bumgarner | -Format editing  -Scope correction  -Form reference |
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