

| GILES CHEMICAL CORPORATION | | |
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| COMPANY PROCEDURE | | |
| Standard Operating Procedure | Page : 1 of 2 | Revision : Date : 3/28/06 |
| Reviewed: Carl Mooney | Title: Determination of Bulk Density for Crystalline Salt Samples | |

QA-LAB-10

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

Purpose: Determination of Bulk Density for Crystalline Salt Samples

Procedure:

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 thoroughly compacted to a known volume in a tared graduated cylinder. The mass of the sample in the cylinder is measured. The bulk density is calculated and converted to lb/ft³.

Equipment :

100-mL graduated cylinder
 Funnel
 Small spatula
 Weighing Balance

1. A 100-mL graduated cylinder is placed on the balance and tarred to zero.
2. The Cylinder is filled with the salt sample
3. The cylinder is tapped lightly with the spatula to compact sample, tapping is stopped when level ceases to drop
4. More is added until the level reaches the 100-mL graduation on the cylinder.
5. The volume of the sample in the cylinder is recorded.
6. The cylinder is placed back on the balance and weight of the sample is recorded.
7. 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)

$$\text{g / mL} \times 62.4 = \text{lb. / ft}^3$$

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TRAINING DOCUMENTATION

| | EMPLOYEE | TITLE | SIGNATURE | DATE |
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