

UNION CARBIDE CORPORATION

"CALIDRIA" ASBESTOS RG-144

Product Description

"Calidria" asbestos RG-144 is a highly purified fiber product used as a thickening agent and thixotrope for various resin systems and for reinforcing thermoplastics.

Packaging Specifications

Product Code:	652501	Net Weight:	35 lbs./bag
Bag Code:	8008-A	Bags/Pallet:	40
Bag Size:	23" x 26" x 7"	Pallet Size:	40" x 48"
Packaged Dry Bulk:	17 lbs./ft.^{3}	Full Pallet Weight:	1400 lbs.
Full Pallet Dimensions:	53" x 44" x 62"	Bag Description:	8008-A with polyethylene overwrap

Typical Properties

Moisture	2.0% maximum
Magnetite	0.75% maximum
Wet Screen +65 mesh	1.0% maximum
Wet Bulk Density, ml.	900 minimum

Nov. 1982

% MOISTURE

METHOD A

I. APPARATUS

Granular Moisture Register model G-8

II. PROCEDURE

The Granular Moisture Register is currently being used to test the % moisture in "Calidria" asbestos products. The apparatus has been standardized for these particular tests and calibration curves have been made for the different products being tested.

1. Place the sample cup on the electrode, fill cup with sample and carefully push the plunger into the cup. (Enough sample should be used to make at least 1/2" thick cake, about 20 g.)

2. Place the complete electrode assembly in the recess of the press center plate with the connector holes pointed forward. Pump the jack to 2500 lb. pressure.

3. Disconnect the sensitivity module from the standard (No. 040) and adjust the meter to read zero. (The meter should read "100" with the standard.)

4. Connect the module to the electrode assembly and record the meter reading.

5. Use the calibration curve for the sample to obtain the % moisture.

III. REPORT - % moisture

% MOISTURE

METHOD B

I. APPARATUS

Balance, Laboratory oven, Hot plate, Aluminum pan.

II. PROCEDURE

A. Using the oven.

1. Tare the aluminum pan, weigh 100 grams of sample into the pan, and place it in the laboratory oven for eight hours at 105°C. Reweigh, and calculate for percent water.

B. Using the hot plate.

2. Tare the aluminum pan, weigh 100 grams of sample into the pan, and place it on the hot plate for one hour, reweigh and calculate % water.

III. CALCULATION

$$\% \text{ MOISTURE} = \frac{\text{Wet wt.} - \text{Dry wt.}}{\text{Wet wt.}} \times 100$$

% MAGNETITE

I. APPARATUS

1. Permeameter assembly, test tubes, tube packer assembly, permeameter standards.

II. PROCEDURE

A. Sample preparation

1. Label and weigh empty test tubes to ± 1 mg.

2. Load about 1.2 grams of dry asbestos into the test tube and pack the material into the base portion with the tube packer assembly. Relaxation of pressure on the plunger should not cause it to be expelled more than 1 mm. from the holder.

3. Obtain net weight of sample in the tube.

B. Apparatus set-up

1. Turn meter shunt control to X1 position, adjust meter zero control to set pointer at "0" position.

C. Calibration

The instrument is currently being used to determine paramagnetic material contained in "Calidria" asbestos. The standards are prepared from zinc oxide and magnetically susceptible material removed from a Coalinga ore sample by a permanent magnet. Four standards have been prepared to contain by weight 8, 20, 40, and 160 mg. of Coalinga "magnetics".

1. Insert the 8 mg. magnetics standard into the transformer. Set the meter shunt to X2 and adjust "calibrate" control to read 4.0 mg., remove the standard and see if the meter is still adjusted to zero. If not, readjust to zero.

2. Repeat step 1 until the meter reads zero without the standard and 4.0 with the standard inserted.

3. Record the amount of magnetite in the sample.

4. The following table is the range of magnetite one can read with different standards.

Standard	Shunt Setting	Range
1	X2	0 - 8 mg.
2	X5	0 - 20 mg.
3	X10	0 - 40 mg.
4	X40	0 - 160 mg.

5. For best results, use a standard that will give the reading at about half scale.

III. CALCULATIONS

$$\% \text{ MAGNETITE} = \frac{\text{mg. of magnetite}}{\text{mg. of total sample}} \times 100$$

IV. REPORT - % magnetite

WET SCREEN

METHOD A - wet screening of dry sample

I. APPARATUS

1. Set of 8" diameter screens - Tyler Standard Screen Scale - consisting of 20, 35, 65, 80, 100, 200 and 325 mesh sieves.

2. Pan 12" x 18" x 6" (preferable plastic) or any size larger than 12" x 12" x 4".

3. 12.6 cm. diameter Buchner Funnel, 12.5 cm. filter paper (WHATMAN No. 1), 11 cm. diameter wire screen (10 mesh).

4. Vacuum flask, vacuum supply and hose.

5. Hot plate, oven and balance.

II. PROCEDURE

1. Weigh out five $\pm$ 0.01 grams of fiber and place it in the screen mesh. (When using mesh size smaller than 100 use ten $\pm$ 0.01 grams.)

2. Wet the fiber in the screen with a continuous flow of water being careful not to let the water with the fiber overflow over the screen.

3. Fill the pan with 1-1/2 to 2 inches of water.

4. Holding the screen in both hands and with a jigging motion move the screen up and down in the water so that a suction is produced on the upward motion.

5. Change the water in the pan four or five times or until the water remains clear. Screening should take about 10 minutes.

6. After screening, backwash the contents of the screen into a gallon bucket.

7. Assemble the vacuum apparatus by placing the Buchner funnel on the vacuum flask.

8. Center the wire backing screen on the filter paper. Wet the paper and screen and place it in the funnel with the screen on the bottom and turn on the vacuum.

WET SCREEN

(Cont'd)

9. Transfer the fiber in the 1 gallon bucket to the vacuum apparatus.

10. After filtration has been completed, dry the filter paper and cake on the hot plate for about 2 minutes or until the moisture has evaporated.

11. Transfer the filter paper and cake to the oven or weigh right away. (Moisture collects very rapidly so time is important.)

III. CALCULATIONS

$$\% \text{ Retained} = \frac{\text{/wt. of filter cake \& paper/ - wt. of paper}}{5.0} \times 100$$

IV. REPORT - % retained

WET BULK DENSITY

METHOD C

2 g/liter (Dry material)

APPARATUS

Waring blender (2-speed), balance, stoppered 1000 ml. graduate.

PROCEDURE

Weigh out two grams asbestos into Waring blender, add 500 ml. distilled water, mix for ten seconds at higher speed. Wash sample into 1000 ml. graduate and add distilled water to the 100 ml. mark. Stopper or cover and invert ten times. Allow to settle without disturbance for one hour. Read the top level of settled solids.

Report settled volume of asbestos in mls.

NOTE: In some instances, instead of settling the asbestos may flock in various regions of the graduate. A total reading of settling may be obtained by recording in ml. the amount observed in each region then adding these numbers to obtain the total amount of settled asbestos. Report the degree of striation in each region (ml.) when this occurs.