

Perlite

TECHNICAL DATA SHEET/No. 2-5 1977

PERLITE FERTILIZER BY THE BULK BLEND METHOD

GENERAL

Bulk blend perlite fertilizer is a product specifically designed for the home and garden market. It is a simple dry mix blend of fertilizer ingredients such as diammonium phosphate, urea and potash plus bentonite and expanded perlite. A small amount of water is added to prevent segregation of components and render the fertilizer dust free. This fertilizer can be manufactured in low cost bulk blending plants near the ultimate consumer.

PROPERTIES

- 1 — Low bulk density; 24-28 pcf (384-449 kg/cu. m)
- 2 — Better appearance; light and uniform in color. Can be white or tinted.
- 3 — Does not cake in storage and flows readily from a cyclone or roll type spreader.
- 4 — Dust free.
- 5 — Ease of application and even distribution. Light color prevents overlapping or skipping during application and will disappear as a result of dew, watering or rain. Fertilizer is not blown away by light breezes.
- 6 — Negligible burning under adverse dry weather conditions at 2 lbs (.91 kg) of nitrogen per 1000 sq. ft. (93 sq. m)
- 7 — Grass green in approximately a week and effects last for over a month.

MANUFACTURING AND MARKETING ADVANTAGES

- 1 — Low cost. Can be manufactured in low cost bulk-blending plants offering considerable savings over conventional processes.
- 2 — Availability to market areas. Bulk blending plants exist in all marketing areas therefore eliminating costly shipping charges.
- 3 — Versatility. Formulation can be changed rapidly in the manufacturing process to accommodate special orders or customer needs. The conventional 20-10-5 or other formulas can be manufactured by this process.
- 4 — A new appearing product which you can promote and increase your sales.

FERTILIZER INGREDIENTS

- 1 — Diammonium phosphate fines, 18-46-0 or 21-53-0.
- 2 — White crystalline urea, 45% N
- 3 — Ureaformaldehyde, 36%N. This is used if water-insoluble nitrogen is desired.
- 4 — Solution grade potash, 62% K₂O.
- 5 — Bentonite, -200 mesh.
- 6 — Water.
- 7 — Expanded perlite. Perlite shall conform to the following requirements.

Bulk Density	6.5-9.0 pcf (104-144 kg/cu. m)	
U. S. Standard Sieve Size	% Retained by weight cumulative	
+8	0-0.1	
+16	0-5.0	
+50	70.0-90.0	
+100	88.0-100	
-100	0-12 (non-cumulative)	

RESULTS OF PRODUCT TESTING

Storage. After storage for six months in a warehouse where bags were stacked, 12 high, bottom bags showed no caking of materials when dropped from waist-high two times, once on each flat side.

Uniformity. Segregation analysis is performed by use of a segregation device developed by TVA. The unit is basically a narrow box, which allows

a sample that is poured through a funnel at one end of the box forming a pile section to be divided into nine equal segments. These segments are leached with water to dissolve the soluble fertilizer ingredients. The insoluble portion, which is largely perlite, is dried and weighed. If no segregation takes place, the percentage insoluble is the same in each segment. The variation of percent insoluble between all segments will not exceed 4% in perlite fertilizer produced by the bulk blend method.

Spreading. On occasion there has been some bridging in a cyclone spreader. However, this problem is overcome by tapping the spreader or bending or extending the scrapper wire.

METHOD OF MANUFACTURE

Details on the method of manufacture are available from Perlite Institute, Inc. and its members.

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