

Title POLYON Polymer Coated Urea, mini size

No. PD-8

Issued February 7, 2003 **Supersedes** March 9, 1998

Product Names: Mini POLYON® Coated Urea; mini PCU
Polymer Coated Urea (PCU); mini RLC-Urea

Note: Reactive Layers Coating (RLC™) Process (RLC-Urea); PCU is Association of American Plant Food Control Officials (AAPFCO) Definition (N-32), Official Pub. No. 51, 1998

Label Guaranteed Analysis 41-0-0, 43-0-0

Total Nitrogen(N).....41%, 43%
41%, 43% Urea(N)*

Source of Nutrient: polymer coated urea

*41 and 43% slowly available urea nitrogen from polymer coated urea as manufactured, per AOAC 970.04 (Katz) method. See reverse for AOAC test method description.

Controlled Release Profile (CRP): The CRP is the cumulative percentage of urea(N) released from the polymer coated urea by osmotic diffusion through the polymer membrane coating measured at intervals over a period of time. Expected response times, based on laboratory tested CRPs and field tests for POLYON coated urea, -8+16 sieve size granules with mean diameter of 1.9 mm, are given in the table below.

<u>%N</u>	<u>Turf Response Time**</u> <u>@ Soil Temps -- Weeks</u>	
	<u>Cool/Warm</u>	<u>Warm/Hot</u>
41	19 --17	17 --15
43	17-- 15	15 --13

**Higher rates of nitrogen should be applied for feeding 15 weeks than for feeding 7 weeks. For example, low turf response would be expected if mini POLYON PCU 41N were applied in "cool" turf at only 1 lb (N) per 1000 ft², since this generally is an insufficient amount of nitrogen to feed turfgrass over a 15-week period.

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Abrasion/Impact Resistance: The POLYON polymer coating is tough and durable; and, therefore, its release control quality remains unaltered even when subjected to harsh conveying, blending, or application operations. This means label guarantees for controlled release nitrogen can be met consistently when tested by the state fertilizer control chemists.

Official Test for Coated Slow Release Label Guarantee: The label guarantee for coated slow release nitrogen, CSRN, is as manufactured and shipped, per the Association of Official Analytical Chemists, AOAC 970.04 test method, commonly referred to as the Katz test, the method approved by the Association of American Plant Food Control Officials, AAPFCO. The percentage of unreleased nitrogen is determined after a 2-hour water leaching (dynamic flow) test conducted at 70°F to 75°F. This official test method for the label guarantee does not determine the actual release, eg. the CRP, of the nitrogen which remains unreleased after the 2-hour test period.

Moisture Resistance: During storage mini POLYON PCU remains dry and free flowing even in hot, humid conditions. The critical relative humidity (CRH) at 86°F is above 90%. Uncoated urea and SCU by comparison have a CRH from 70% to 75%. A mini blend containing both uncoated urea and POLYON coated urea, however, assumes the CRH of the urea.

Screen Analysis (Typical) and Size Guide Number (SGN):

<u>U.S. Std. Sieve</u>	<u>% Retained Cumulative</u>	<u>% Retained on Each</u>	<u>SGN</u>
8	0	0	
10	1	1	150
12	10	9	
14	68	58	
16	99	31	
18	100	1	
20	100	0	

Bulk Density: 46-49 lbs per cu. ft.

Angle of Repose: 28 degrees