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DIAMONDS, PEARLS &STAMICARBON GRANULES A LATEST UP-DATE

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ABSTRACT

The newest entrant to the urea granulation market has been Stamicarbon. Stamicarbon developed its own patented fluid bed urea granulation technology in the 1970s and 80s, including cooperation with Norsk Hydro from 1980. When Hydro briefly restricted licensing of its own granulation technology in 1994, Stamicarbon began work on developing its own process again, and in recent years the company has been working on the granulation process in conjunction with GPO Azot at Grodno in Belarus, whose 280 t/d plant has been a test bed of sorts for Stamicarbon. In September/October a second unit (2 x 600 t/d plants) in Canada will be commissioned using Stamicarbon's principle of low pressure film spraying. The process produces granular urea by low pressure film spraying of liquid urea onto seed material in a fluidised state. The concentrated urea melt (around 98.5% w/w) has urea formaldehyde added as an anti caking agent and is then passed through a number of spray heads in a fluidised layer of urea particles (recycled material). Particle size enlargement is achieved by continuous solidification of thin layers of urea onto the initial particles. The material then passes to a cooling/conditioning section. In both sections fluidisation air is evenly distributed by a perforated plate to fluidise and cool down the granules. So far product quality has been high, with high bulk density, roundness and uniformity, and low formaldehyde content. There is low urea dust formation, and overall investment cost is estimated to be comparable with competing processes.

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