Jowat uses CO2-based polyols to improve performance of PU hot melt adhesives

Novomer Inc., a sustainable materials company pioneering a family of polymers and other chemicals from renewable feedstocks such as carbon dioxide, has announced that Jowat AG, a supplier of industrial adhesives headquartered in Germany, is the first to commercially adopt Novomer's new Converge polypropylene carbonate (PPC) polyols for use in polyurethane hot melt adhesive applications.

“The commercial adoption by **Jowat** is a significant milestone in the commercial development of our breakthrough technology and we expect to attract additional customers in CASE applications,” said **Peter Shepard,** Chief Business Officer for **Novomer Inc. “Converge** polyols delivered a sustainability advantage and helped Jowat improve the performance of one of their reactive hot melt products.”

Jowat was able to leverage the technical advantages of Novomer’s Converge polyols to develop a new formulation, said **Klaus Kullmann,** Managing Director/Sales and Marketing for Jowat AG. “We were able to help a customer improve the hydrolytic stability of their reactive hot melt without compromising on green strength and productivity,” said Kullmann. “Converge polyols are unique materials and will help differentiate many more of our products in the future.”

Converge polyols are designed to replace conventional petroleum-based polyether, polyester, and polycarbonate polyols. They are based on the co-polymerisation of carbon dioxide (CO_2) and epoxides and the resulting products contain more than 40 % by weight CO_2. The use of waste CO_2 as a significant raw material yields a product with an extremely low carbon footprint. In addition, since waste CO_2 is significantly lower in cost than conventional petroleum-based raw materials, Converge polyol manufacturing costs are favourable compared to conventional polyols when produced at full commercial scale, says Novomer.

In terms of performance, Novomer's Converge polyols have a unique polycarbonate backbone which increases the strength and durability of polyurethane products. Incorporating these new polyols into existing formulations yields foams with higher tensile and tear strength, and increased load bearing capacity; adhesives and coatings with improved adhesion, cohesive strength, and weatherability; and elastomers with greater tensile and flexural strength, according to the manufacturer.

In addition, the high CO_2 content enabled by Novomer's proprietary technology produces polyols with a calorific content (heat of combustion) that is said to be 40 – 50% lower than conventional polyether, polyester, and polycarbonate polyols. This inherent feature is especially important in polyurethane applications that must meet strict flammability requirements, says the company.

Converge polyols are available globally. The company’s initial product offerings – 1000 and 2000 molecular weight grades – are manufactured at a “multi-thousand-tonne” commercial-scale toll facility in Houston, TX, USA. Novomer said it continues to work closely with several major companies on new applications for various segments of the polyurethanes industry.

Jowat AG, headquartered in Detmold, Germany, is a supplier of industrial adhesives. These are mainly used in the woodworking and furniture manufacture, paper and packaging industry for graphic arts, textile, automotive, as well as in the electrical industry. The company was founded in 1919 and has manufacturing sites in Germany in Detmold and Elsteraue, plus four other producing subsidiaries, **Jowat Corp.** in the USA, **Jowat Swiss AG, Jowat Manufacturing** in Malaysia, and the **Jowat Universal Adhesives Australia Pty. Ltd.** in Australia. The supplier of all adhesive groups is manufacturing over 73,000 t/y of adhesives, with around 900 employees.

Adresse:
http://www.gupta-verlag.com/general/news/technology/15319/jowat-uses-co2-based-polyols-to-improve-performance-of-pu-hot-melt