



# October 24, 2017

## Noramco introduces a turnkey approach to cannabinoid APIs at CPhI Worldwide

**Frankfurt, Germany –** Noramco is moving forward with a broad offering of clinical- to commercial-scale cannabinoid APIs for branded and generic pharmaceuticals. The comprehensive offering includes everything a drug manufacturer requires to advance cannabinoid-based APIs to finished dosage forms. More than 100 active clinical trials are in progress involving cannabinoids, most focusing on Dronabinol (THC) and Cannabidiol (CBD).

"Therapeutic benefits are established for several cannabinoid compounds, and today pharmaceutical companies require a robust partner to ensure regulatory approval and commercial supply," said Bill Grubb, Vice President Global Strategy and Innovation, Noramco. "To help clinicians and drug development companies progress potentially life-changing drug development, we are leveraging assets, expertise, and intellectual property to provide customers a sound solution, seamlessly."

Earlier this year, Noramco announced that it obtained patents for chemical synthesis of Dronabinol, Cannabidiol, and derivatives in high yield and high stereospecificity. These patents allow production of high-purity, stable synthetic material.

"Pharmaceutical companies that choose to work with us in cannabinoids can expect superior quality and secure supplies, starting with a full portfolio of API impurity and reference standards, and continuing with samples, clinical material, and commercial-scale supply from facilities in Europe and the United States," Grubb said.

### **Dronabinol in Sesame Oil and Ethanol**

Noramco maintains a Drug Master File (DMF) for high-purity synthetic Dronabinol API in a solution of 20% sesame oil. The API is produced in Switzerland today via a novel synthesis process, and work is underway to make the product available from Noramco's US-based production facilities. Going forward, Noramco also will make Dronabinol available in a 20% ethanol solution, with initial synthesis already in progress in Athens, GA. Full GMP material for clinical trials from the United States will be available in the first quarter of 2018.

### Cannabidiol

Leveraging 8 years of global supply chain expertise in Dronabinol, Noramco is running a global supply program for Cannabidiol. Included in the program is a plan to produce high-purity material via a patent-protected synthetic route, utilizing assets in the United States. Currently, Noramco supplies GMP samples from Europe.

For more information about turnkey offerings in cannabinoid APIs, visit Noramco at CPhI during show hours, October 24-26, 2017 Stand 111A21, Frankfurt Messe, or on the web at www.noramco.com.

### About Noramco

Noramco, headquartered in Wilmington, Delaware, is a leading North American producer of controlled substances and addiction treatment APIs for the pharmaceutical industry. The company offers products for use in attention deficit disorder, pain management, addiction management and abuse deterrence products. Established in 1979, Noramco maintains production and R&D facilities in Delaware and Georgia (USA); and Neuhausen, Switzerland; and accesses agricultural operations in Tasmania through an affiliate, Tasmanian Alkaloids.

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