"Nabilone Pressurized Metered Dose Inhaler"

VCU # 12-110

Applications

- Antiemetic for chemotherapy patients
- Anorexia associated with AIDS wasting syndrome
- Neuropathic pain
- Cachexia
- Muscle Spasticity
- Glaucoma

Advantages

- Fast elevation of blood chemical levels
- More potent than similar products
- Aerosol form more appropriate for an antiemetic than oral capsule

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Market Need

There have been several cannabinoids that have been FDA approved for use as antiemetics, appetite enhancers, and for the management of symptoms of Multiple Sclerosis. However, certain drawbacks from these medications have led some patients to seek treatment by using *Cannabis sativa* (marijuana), a controlled substance that has nevertheless been approved by several states for medical use. This legislation allows medical marijuana to be used by patients without first having to comply with normal pharmaceutics regulations. A safe, pharmaceutical grade cannabinoid is needed to provide patients with effective treatment without having to resort to a potentially dangerous drug. The inventors seek to make the use of medical marijuana obsolete by providing a safe alternative with high potency and easy, repeatable dosage.

Technology Summary

VCU inventors are in early developmental stages of creating a chemically and physically stable form of nabilone for use as an aerosol in a pressurized metered dose inhaler (pMDI). The inventors have previously developed a Δ^9 tetrahydrocannabinol (THC) pMDI, and seek to repeat their success with a new formulation. By using nabilone, a cannabinoid that is more potent than THC, the inventors have confidence that their novel device and formulation may be able to deliver an appropriate dose with clinical efficacy. By using deep lung delivery, the nabilone pMDI ought to be able to quickly raise the chemical concentration in the blood to a therapeutic level. An aerosol form of nabilone allows the chemical to bypass the first-pass liver metabolism, which should allow for a more repeatable dosage amount. A pMDI would also be more appropriate for an antiemetic than the currently available oral capsules as it is not at risk of disgorgement.

Technology Status

Patent pending: U.S. and foreign rights are available.

This technology is available for licensing to industry for further development and commercialization.