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CRYOGENIC COOLING FOR HEMP PROCESSING

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Due to its extremely cold temperature, LIN used in a cryogenic system can cool a process or freeze products like food or hemp within minutes.

CRYOGENIC SOLUTIONS

FOR COMPLIANT INDUSTRIAL HEMP PROCESSING

Liquid nitrogen cooling finds use in an array of applications to help industrial hemp processors meet increasing quality, safety and market demands.

By Sandy Kushner, Michael R. Himes and Timothy D. Lebrecht, Air Products

Industrial hemp and its cannabidiol (CBD) derivatives have pushed to double-digit growth rates in the last few years, bringing with it substantial growing pains. New, efficient methods for growing, harvesting, processing, testing and packaging industrial hemp are needed — in addition to quality requirements and standards — to meet the escalating demand for this product. Many requirements are being prescribed or likely soon to be enforced by the bodies that govern industrial hemp, including the USDA, FDA and state governments.

Yet along with these requirements comes opportunity for innovation. Developments are evolving at a rapid pace. In addition, existing technologies are extending into this growing industry to help meet the quality and quantity market demands of industrial hemp.

One example of existing technology that is finding application in the industrial hemp industry is cryogenic cooling with liquid nitrogen (LIN). LIN, which has been used for decades to “super-refrigerate” or cool products in the food processing, pharmaceutical and nutraceutical

industries, is proving to be advantageous in the industrial hemp industry. As one of the coldest liquids on earth with a boiling point of -320°F (-196°C), liquid nitrogen can be used to cool materials quickly because of its very low temperature. LIN has found great utility in many industries due to its freezing and cooling efficiencies — and the environmental benefits that come with its use.

The Evolving Role of Industrial Hemp

For centuries, hemp has been used for its fiber and oilseed in