

HARCROS CHEMICALS SIGNS LICENSE AGREEMENT TO BECOME AVADAIN'S FIRST MANUFACTURER OF LTDF GRAPHENE FLAKES

Harcros will soon begin selling the world's most important additive material to transform thousands of US-made products

MEMPHIS, TN, UNITED STATES, January 16, 2025 /EINPresswire.com/ -- Harcros Chemicals, Inc.



LTDF has the highest performance of all the types of graphene. Harcros wants to be in the forefront of supplying LTDF graphene flakes to make thousands of products better."

Brad Walden, Harcros' VP for business development

has entered into a license agreement with [Avadain, Inc.](#) to become the first company to commercially manufacture large, thin and defect free (LTDF) graphene flakes.

Graphene is the lightest, strongest and most electrically and thermally conductive material ever discovered. [LTDF graphene](#) is the premier quality of graphene and is used as an additive material to transform thousands of products. The license agreement is aimed at beginning to supply US companies with LTDF graphene for high performance applications.

"LTDF graphene can transform and improve thousands of products," says Mike Miller, CEO of Harcros. "Harcros is the first mover to offer LTDF graphene to our customers so they can have a competitive edge in their respective markets."

The graphene industry's leading trade group, The Graphene Council, says graphene will revolutionize more than 45 sectors and industries, from energy storage to composites, and from aerospace to defense.

"We are thrilled that Harcros is our first manufacturing licensee," says Brad Larschan, Avadain's CEO. "LTDF graphene is urgently needed to super charge and bring down costs for the US battery and supercapacitor industries and to bolster national security."

More than 300 companies worldwide claim to manufacture graphene, but Avadain is the only company with the technology to manufacture industrial volumes of LTDF graphene flakes. The highest quality graphene requires three properties: large surface area, five or fewer atomic layers, thin and defect free. This combination of properties uniquely gives LTDF graphene its

incredible strength, flexibility and nearly perfect electrical conductivity.

“There are many types of graphene materials,” says Brad Walden, Harcros’ VP for business development and leading its graphene initiative. “Our vision is to offer the highest performing graphene products in the market, and we believe LTDF is that technology,” Walden adds. “This is going to disrupt markets.”

The license agreement is another key milestone towards commercialization. The next critical milestone is startup and trials of the production pilot plant targeted for mid-2025. “At Harcros, commercialization is a very deliberate and methodical step-by-step process. Before offering products to our customers, we must first demonstrate to ourselves the capability of making the highest quality products in a reliable and sustainable way. Doing things right from the beginning saves time and avoids problems in the end.” says Walden.

“LTDF has the highest performance of all the types of graphene,” Walden added. “Harcros wants to be in the forefront of supplying the market for large, thin and nearly defect free graphene flakes which can be used to make thousands of products better.”

America’s No. 1 technology futurist and legendary stock picker George Gilder predicted that graphene will have an \$11.5 trillion macro-economic impact. Of the estimated \$100 billion market for graphene, The Graphene Council estimates that 10%-15% will be for the highest quality graphene.

Graphene was first isolated by two University of Manchester researchers 20 years ago. Andre Geim and Kostya Novoselov won the 2010 Nobel Prize in Physics for demonstrating the fantastic properties of this 2D form of hexagonal carbon derived from graphite. LTDF is 200 times stronger than steel and has 1 million times the current density of copper. It is harder than diamond but has 1/1000th the weight of paper. One gram of LTDF graphene can cover a soccer field.

“Graphene is an integral part of the new industrial revolution,” Larschan adds. “In a few short years, graphene is going to touch the lives of virtually every American, every day.”

About Harcros

Harcros is a worldwide manufacturer of innovative and sustainable chemicals headquartered in Kansas City, Kansas.

If you would like to know more about Harcros’ efforts and commitment to our customers, please visit us at www.harcros.com. For press inquiries, please contact us at press@harcros.com.

About Avadain

Avadain is a graphene manufacturing technology licensing company headquartered in Memphis, Tennessee. Avadain has the only known technology to manufacture large, thin and nearly defect free graphene flakes that can be used as an additive material in a wide range of applications.

For more information, please visit Avadain at www.avadaingraphene.com. For press inquiries, please contact Brad Larschan at blarschan@avadaingraphene.com.

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