Research Laboratories Fatality File

Cannabis Lab Explosion Kills Two: A Wake-up Call for a Fast-Growing Industry

Two workers died in a chemical explosion at a cannabis lab on May 7, raising questions about how to maintain high safety standards within a rapidly expanding industry.

Samuel Cuffaro, 19, and Elisabetta D'Innocenti, 52, have become the latest additions to the Laboratory Safety Institute's Memorial Wall, a webpage that tracks lab-related deaths worldwide.

Although the exact cause of the explosion in Italy is still unknown, the lab was using pentane, and authorities are investigating how, where, and how much of the flammable chemical was being stored prior to the explosion, according to Italy24 News.

The inherent risks in cannabis labs are well known. Commercially extracting substances such as tetrahydrocannabinol (THC) or its non-psychoactive cousin, cannabidiol (CBD) from the plant requires the use of either highly toxic and flammable solvents or liquid carbon dioxide, a cryogen.

All labs have hazardous chemicals and associated risks, even the ones that only handle strawberries and petunias. In most labs, such risks are minimized by proper training, hazard analysis and controls.

While the legal cannabis industry has worked hard to earn a reputation for high standards of quality and safety, doing so hasn't been easy in an industry that is speeding like a runaway train, as seen in the following examples:

- In October 2020, two workers were hospitalized following an explosion at a New Mexico cannabis manufacturing facility. Five years before that, New Mexico's Occupational Safety and Health Bureau had fined a medical marijuana dispensary $13,500 after a hash-oil explosion so powerful that it separated the roof from the wall and sent two employees to the hospital.
- In 2018, Cal/OSHA issued a $50,470 fine to Future2 Labs after a worker was badly burned in a propane explosion.
- In 2016, felony charges and an $8.9 million civil lawsuit were brought against the owner of a legal marijuana lab in Oregon after two people received severe burns in an explosion.

All totaled, at least a 10 serious fires or explosions have occurred in the last five years at legal cannabis labs in the U.S.