

State Fire Marshal Issues Warnings

On June 27, 2015 at *Formosa Fun Coast* in New Taipei City, Taiwan, approximately 500 people were injured and burned when a fireball engulfed a crowd of patrons. The sudden burst of flames was caused by the ignition of colored powders that were sprayed over the crowd. With a number of similar events planned in Kansas, the Office of the State Fire Marshal would like to offer information and safety tips to help ensure these events are safe and fun for the participants.

The “combustible dust” used in these events is commonly colored cornstarch, which isn’t normally combustible, but they can burn or explode if the particles are the right size and in the right concentration in the presence of an ignition source. Possible ignition sources include open flames and sparks, electrical equipment, hot surfaces, and static electricity.

There are four elements needed for a flash fire/dust explosion:

- Combustible Powder

- Oxygen (Air)

- Ignition Source

- Dispersion of dust into a cloud above the minimum explosion concentration (MEC)

Most of these events generate sufficient colored powder and cloud dispersion in the presence of air to create a fire hazard, yet few fires such as the one in Taiwan occur. The missing element is often the ignition source. The key to preventing these incidents relies on:

- Eliminating ignition sources

- Reducing dust clouds to concentrations below the minimum explosive concentration (MEC)

Our office contacted The Color Vibe, the organizer of the Color Vibe 5K Run in Wichita on August 1. The company representative offered these safety measures and protocols that they implement with each of their events to ensure participant safety:

- No electrical devices to distribute the powder

- The powder has been tested for safe public use

- A gap is required between stages and the public

- Smoking is prohibited in the festival area

Event organizers should take the necessary precautions to ensure their events are a fire-proof as possible so that Kansans will not experience a tragedy such as the one in Taiwan.