Liquid Nitrogen – Safe Handling Fatality File



Six employees are killed in liquid nitrogen release

At 10:13 a.m. on January 28, 2021, three maintenance employees were in a freezer room troubleshooting improperly frozen cooked chicken parts discharging from the liquid nitrogen Messer Immersion and Spiral Freezer. The immersion freezer and the internal freezer tub were designed to contain a bath of liquid nitrogen to flash freeze the chicken. One of the maintenance employees, who was troubleshooting the freezer, used a tool to bend the bottom of the stainless-steel bubbler system dip tube upward inside the tub of the immersion freezer.

The bubbler system was part of the liquid control system that maintained the level of liquid nitrogen in the immersion freezer tub. Soon after the freezer was restarted, liquid nitrogen in the immersion freezer tub overflowed onto the floor due to the damaged dip tube. The liquid nitrogen that spilled out of the freezer converted to vapor due to the changes in temperature and pressure and displaced oxygen from the air.

The three maintenance employees succumbed to the oxygen deficient atmosphere inside the freezer room. The plant superintendent, a maintenance employee, and a quality control technician went to the freezer room and attempted to help the employees when they also died due to the oxygen deficient atmosphere.

Source: https://www.osha.gov