



## U. S. Chemical Safety and Hazard Investigation Board RECOMMENDATION STATUS CHANGE SUMMARY

<b>Report:</b>	Fatal Liquid Nitrogen Release at Foundation Food Group
<b>Recommendation Number:</b>	2021-03-I-GA-R3
<b>Date Issued:</b>	December 11, 2023
<b>Recipient:</b>	Messer LLC
<b>New Status:</b>	Open – Awaiting Response or Evaluation/Approval of Response
<b>Date of Status Change:</b>	Not Applicable – Initial Status

### Recommendation Text:

*Create an informational product that provides Messer customers with information on the safety issues described in this report. In this informational product, recommend that Messer customers develop and implement effective safety management systems to control asphyxiation hazards from inert gases based on the guidance published in CGA P-86 Guideline for Process Safety Management, CGA P-12 Guideline for Safe Handling of Cryogenic and Refrigerated Liquids, CGA P-18 Standard for Bulk Inert Gas Systems, and CGA P-76 Hazards of Oxygen-Deficient Atmospheres.*

### Board Status Change Decision:

#### A. Rationale for Recommendation

On January 28, 2021, liquid nitrogen overflowed from an immersion freezer located inside Plant 4 at the Foundation Food Group (FFG) facility in Gainesville, GA. The release occurred while two maintenance employees were troubleshooting the equipment. Once the liquid nitrogen was released, it quickly vaporized and accumulated inside the room in which the equipment was located, creating an oxygen deficient atmosphere.

The two maintenance employees were asphyxiated. Upon discovering the two maintenance employees, an emergency response was initiated which included attempts by other employees to rescue the two maintenance employees and to isolate the freezer from its liquid nitrogen source. During these activities, four additional employees of FFG were asphyxiated. Additionally, three more FFG employees and one firefighter were seriously injured, presenting with symptoms of asphyxia. The incident resulted in an estimated \$1.95 million in damage.

The U.S. Chemical Safety and Hazard Investigation Board (CSB) investigated the incident and found several safety issues including faulty equipment design, inadequate precautions for using liquid nitrogen, the lack of atmospheric monitoring and alarms, inadequate emergency preparedness, a lack of a safety management system, and a lack of regulatory coverage for cryogenic asphyxiants. As a result of these findings, the CSB issued two recommendations to Messer LLC. This status change summary addresses **CSB Recommendation No. 2021-03-I-GA-R3**.