

Cryoquip Australia and CSIRO Create New Liquid Nitrogen Dewar Filling Station Designed To Safely Work In Confined Areas

Introduction

CSIRO (Commonwealth Scientific & Industrial Research Organisation) created a new Dewar Filling Station for use inside buildings. The new filling station includes automatic Liquid Nitrogen (LN₂) filling control, as well as monitoring and shutdown systems safety mechanisms.

LN₂ is commonly used in the microscopy laboratory environment, and can cause significant health and safety risks, such as asphyxiation, explosions, burns and/or frostbite from splashes and other injuries. Several workplace fatalities have resulted from nitrogen exposure.

One nitrogen exposure incident occurred CSIRO Livestock Industries' Australian Animal Health Laboratory (AAHL) in 2001. AAHL is a high security, bio-containment facility having a number of airtight laboratories. In airtight environments, the risks associated with handling LN₂ are significant. Even small spills or leaks can be life threatening as oxygen is rapidly displaced by the vaporizing LN₂. The CSIRO team worked closely with Cryoquip Australia, a supplier of cryogenic handling systems, on possible design solutions. The outcome was a practical and effective Liquid Nitrogen Dewar Filling Station.

Dewar Filling Station Safety Features –

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