



Lash Miller Laboratories St. George Campus

OPS-SOP- 11	Revision #: 01	Implementation Date: 2019-01-28	Last Reviewed/ Update Date: 2019-04-16	Page #: 1 of 4
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## Standard Operating Procedure: Cryogen Dispensing (Liquid Nitrogen )

### **Hazards:**

- **Cryogenic burns, frostbite and tissue damage**
- **Asphyxiation hazard**
- **High pressure hazard**

**1. Purpose:** to provide step by step guidance on how to dispense liquid N<sub>2</sub> (LN<sub>2</sub>)

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**2. Scope:** applies to all students, staff and faculty needing to dispense LN<sub>2</sub>

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**3. Prerequisites:** You must be trained by an experienced person in your lab or by Stores personnel

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**4. Responsibilities:** it is everybody responsibility to follow SOP and read the cryogens section of the Online Departmental Health and Safety Guide as well as the SDS for LN<sub>2</sub>

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### **5.**

#### **Personal Protective Equipment (PPE)**



## 5. Procedure: Dispensing LN2

### Liquid N2 dewers and dispensing unit



- Ensure all proper PPE is worn correctly; long pants, closed toed shoes, safety goggles, a face shield and cryogenics gloves. The face shield and cryogenics gloves are located in the cryogenic facility or can be attained from Stores
- The loading dock roller door must be kept open. If working after hours, close roller door when dispensing is completed.
- Ensure you are using only specially designed containers when transporting and handling LN2, examples shown below.



- Prior to dispensing LN2, check that the tanks pressure is lower than 20 psi. If pressure exceeds 20 psi vent the tank with the rear valve (A - in picture below).



- Place dispensing tube (B - in picture above) a couple inches into receiving vessel and open the yellow output valve slightly.
- Once receiving vessel has cooled and dispensing tube has begun to freeze open the yellow output valve further.
- Monitor your receiving vessel, when full, close yellow output valve completely
- Those that leave vessel unattended when filling (overflow occurs) will be charged an extra fee of 50 liters.
- Do not attempt to decant LN2 from a larger container into a smaller container. This will significantly increase chance of exposure or incident



## 6. **Oxygen Deficiency Alarm**

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- O2 alarm will sound if oxygen levels drop below 19.5%.

- If alarm sounds stop dispensing immediately and exit the cryogenics facility.
- Report situation to the Manager of Chem-Labs Technical Support and Supplies @ 416-706-1856 and do not return to facility until the situation is resolved.



Reviewed by Grace Flock; Director Operations and Technical Services  
(DOTS)

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