

Guideline No. 4, Issue No. 1 Date: 7/15/2012	<h2 style="text-align: center;">Transporting Cryogenic Liquids</h2>
Guideline Perspective	<p>Cryogenic liquids have unique hazards that must be managed appropriately. Oxygen deficiency hazards, thermal burns, embrittlement and over pressurization are some of the hazards cryogenic materials present. This document offers guidelines for the MSU campus community when transporting cryogenic liquids within campus buildings, between buildings and in motor vehicles.</p>
Guidelines	<p>Training:</p> <ul style="list-style-type: none"> - All users of cryogenic liquids must complete the MSU EHS online training module “Compressed Gas and Cryogen Safety” before beginning work with cryogenic liquids. This training can be found at: http://www.aware.msu.edu/TRAIN/CGC/ <p>General:</p> <ul style="list-style-type: none"> - Vessel used to transport cryogenic liquids must be designed specifically for cryogenic liquid use and in good operating condition. Household-type thermos bottles and Styrofoam cups are not appropriate cryogenic liquid containers. - Filled cryogen dewars larger than 5 liters must be moved on a sturdy wheeled cart - Avoid transporting filled cryogen dewars in occupied elevators. Use freight elevator if available. <p>Transport between buildings:</p> <ul style="list-style-type: none"> - Do not transport filled open dewars between buildings; closed dewars only. - Have appropriate PPE available for the entire transit time between buildings should an emergency occur. <p>Transport within vehicles:</p> <ul style="list-style-type: none"> - Filled cryogen dewars may not be transported in closed vehicles. This includes inside passenger cars, mini-van or SUV type vehicles. Cryogens can only be transported in open vehicles such as flatbed trucks, pickup trucks, etc. - Filled cryogen dewars must be properly secured in the truck bed area and not be allowed to roll or bump against other objects while in transport
Direct cryogen delivery	<p>Airgas offers cryogen delivery direct to locations throughout campus; please call (517) 321-8035 to arrange for delivery service to your campus location. Airgas will also sell liquid nitrogen to the general public at their facility located at 2140 Mint Road, Lansing, MI 48906-2723. Call (517) 321-8035 for more information.</p>
Further information	<p>Telephone the MSU Office of Environmental Health and Safety at 517-355-0153 for more information.</p>