

WHERE CAN I GET HELP?

- ⇒ You can find guidance documents, consolidated emergency response/contingency plan template, and hazardous materials inventory upload template on the CERS website at <https://cers.calepa.ca.gov/businesses/>
- ⇒ You can obtain familiarity with CERS at the CERS Business Training Portal at <https://cersapps.calepa.ca.gov/Training/Business/Account/>.
Note! Do not enter your HMBP at the Training Portal . It is only for practice.
- ⇒ The Solano County CUPA has guidance and training information including PowerPoint presentations of HMBP and CERS training at www.solanocounty.com/depts/rm/environmental_health/hazmat/
- ⇒ You can contact the Solano County CUPA at (707) 784-6765 and ask for a Hazardous Materials Specialist who can assist you over the phone, by appointment in our office, or by appointment at your facility.
- ⇒ You can find information on the laws and regulations regarding HMBP from California Office of Emergency Services at www.caloes.ca.gov/cal-oes-divisions/fire-rescue/hazardous-materials/hazmat-business-plan

CARBON DIOXIDE AND NITROGEN

Carbon Dioxide CO₂ and Nitrogen N₂ are both colorless, odorless gases that, if released, can result in harm to people. Did you know the risk of CO₂ and N₂ off gassing increases when stored in bulk tanks including dewars? Did you know that serious injury and death to employees and the public have occurred at retail food and beverage facilities from exposure to CO₂ and N₂?

WHAT ARE THE HEALTH EFFECTS AND RISKS OF CO₂ AND N₂?

Health Effects & Risks Include:

- ⇒ Cylinders at high pressure and when ruptured can go through walls:
- ⇒ The low temperature liquid in dewars and tanks may expand & explode if heated:
- ⇒ Liquid N₂ & CO₂ can cause skin and tissue burns (frost bite/freezer burns):
- ⇒ Dizziness:
- ⇒ Drowsiness:
- ⇒ Disorientation:
- ⇒ Asphyxiation (suffocation):
- ⇒ Death:



DEPARTMENT OF RESOURCE MANAGEMENT

ENVIRONMENTAL HEALTH SERVICES DIVISION

CERTIFIED UNIFIED PROGRAM AGENCY (CUPA)

HAZARDOUS MATERIALS BUSINESS PLAN FOR FOOD AND BEVERAGE FACILITIES USING CARBON DIOXIDE CO₂



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WHAT QUANTITIES OF CO₂ & N₂ REQUIRE A HAZARDOUS MATERIALS BUSINESS PLAN (HMBP)?

The Health and Safety Code requires your business to submit an HMBP if you store **1000 cubic feet (or more)** of CO₂ or N₂ onsite. How do I determine that my business is subject to these requirements?

Carbon Dioxide CO₂

Volume in Pounds	Volume in gallons	Volume in Cubic feet*
85	10	= 743
127	15	= 1110
169	20	= 1481
212	25	= 1853
254	30	= 2220
296	35	= 2587
339	40	= 2963

*Conversions are based on 8.74 cubic feet per pound and 74.04 cubic feet per gallon

Nitrogen N₂

Volume in Pounds	Volume in gallons	Volume in Cubic feet*
67	10	= 927
101	15	= 1395
135	20	= 1862
169	25	= 2330
202	30	= 2791
236	35	= 3259
270	40	= 3728

*Conversions are based on 13.80 cubic feet per pound and 93.11 cubic feet per gallon :

WHY IS A HMBP REQUIRED?

The HMBP is needed to:

- ⇒ Inform and assist first responders (e.g. firefighters, police, EMTs) so that they can safely respond to incidents at your business:
- ⇒ Inform the public (upon request) where hazardous materials are stored in their community:
- ⇒ Inform employees of workplace hazards and the emergency response procedures to use during an emergency;

The HMBP must:

- ⇒ Be site-specific:
- ⇒ Be prepared by business owner/operator or agent:
- ⇒ Describe the proper use and handling of hazardous materials stored at your business
- ⇒ Include an emergency plan for spills and releases:
- ⇒ Include provisions for employee training on storage, handling, and emergency response:



WHAT MUST A HMBP INCLUDE?

- ⇒ Business Activities regarding hazardous materials:
- ⇒ Business owner/operator information:
- ⇒ Inventory of Hazardous Materials:
- ⇒ Map(s) indicating the location of the business, hazardous materials storage areas, exits, safety equipment, etc:
- ⇒ Written plan for emergency response including fires, earthquakes, floods, releases/spills, and other accidents involving hazardous materials:
- ⇒ Employee training plan on managing hazmat and emergencies:

WHERE DO I SUBMIT THE HMBP?

Your HMBP must be submitted electronically to the California Environmental Reporting System(CERS). The CERS system website is located at:

<https://cersbusiness.calepa.ca.gov/>

WHAT ARE THE STORAGE STANDARDS?

- ⇒ Warning signs placed where CO₂ or N₂ tanks, or high pressure equipment is stored:
- ⇒ Cylinders, dewars, and bulk tanks labeled as to their contents:
- ⇒ Cylinders and dewars stored vertically and double chained/secured to the wall:
- ⇒ Equipment filled, inspected, and maintained by qualified personnel:
- ⇒ Staff training on CO₂ or N₂ safety data sheet and emergency response procedures:
- ⇒ CO₂ or N₂ sensors by tanks, cylinders ,& high pressure equipment, tested annually: