



# Standard Operating Procedure for carbon dioxide

Carbon dioxide 124-38-9

## Section 1 – Lab-Specific Information

**Building/Room(s) covered by this SOP:**

**FTR 213**

**Unit or department:**  
**Sciences**

**School of Aquatic & Fishery**

**Principal Investigator Name:**

**Steven Roberts**

**Principal Investigator Signature/Date:**

**This SOP was created by (if not PI):**  
**2025**

**Sam White/CHO/09-30-**

**Name/Title/Date/Signature**

## Section 2 – Hazards

May displace oxygen and cause rapid suffocation. May increase respiration and heart rate.  
Contains gas under pressure; may explode if heated.



## Section 3 – Engineering Controls and Personal Protective Equipment (PPE)

### Engineering controls

Use in well-ventilated room. Close valve after each use and when empty. Use equipment rated for cylinder pressure. Do not open valve until connected to equipment prepared for



use. Use a back flow preventative device in the piping. Use only equipment of compatible materials of construction. Always keep container in upright position.

## Hygiene measures

### Skin and body protection

### Hand protection

Hand protection is not required for the activities described in this SOP.

### Eye protection

ANSI Z87.1-compliant eye protection is not required for all work with carbon dioxide.

### Respiratory protection

Respiratory protection is not required for the activities described in this SOP.

## Section 4 – Special handling and storage requirements

Carbon dioxide cylinders must remain upright at all times, including during transport.

Carbon dioxide cylinders must be secured with straps and/or chains to an immovable structure (e.g. a wall) during storage.

Carbon dioxide cylinders should only be transported with hand trucks and must be secured to the hand truck(s) with a strapping system.

## Section 5 – Spill and accident procedures

Should a cylinder fail and rapid gas expulsion cannot be stopped, leave area immediately, close door(s) behind you, lock the door(s) and post a sign on the outside of the door indicating the hazard and NO ENTRY. Contact

For questions on spill cleanup, contact EH&S spill consultants at 206-543-0467 during normal business hours (Monday-Friday, 8 a.m. to 5 p.m.).

Any spill, exposure or near miss incident requires the involved person or supervisor to complete and submit the [UW Online Accident Reporting System](#) (OARS) form on the EH&S website within 24 hours (certain [types of incidents require immediate notification](#)).



**Exposures:** If a person is injured, exposed, or suspected of being exposed to carbon dioxide, follow procedures listed here:

**Perform first aid immediately.**

- **Inhalation exposure:** Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- **Skin exposure:** Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- **Eye exposure:** Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

**Get Help.**

- **Call 9-1-1** or go to nearest Emergency Department (ED); provide details of exposure:
  - Agent
  - Dose
  - Route of exposure
  - Time since exposure
- **Bring the SDS and this SOP** to the Emergency Department
- **Notify your supervisor** as soon as possible for assistance
- **Secure the area** before leaving; lock doors and indicate spill if needed

**Report the incident to Environmental Health & Safety.**

- **Notify EH&S immediately** after providing first aid and/or getting help.
  - o During business hours (M-F/8-5), call 206-543-7262.
  - o Outside of business hours, call 206-685-UWPD (8973) to be routed to EH&S Staff On Call.
- Any spill, exposure or near miss incident requires the involved person or supervisor to complete and submit the [UW Online Accident Reporting System](#) (OARS) form on the EH&S website within 24 hours (certain [types of incidents require immediate notification](#)).

## Section 6 – Waste accumulation and disposal procedures

## Section 7 – Protocol

**NOTE:** Any deviation from this SOP requires approval from Principal Investigator.

## Section 8 – Special Precautions for animal use (☐Yes ☐No)

N/A



## **PARTICULARLY HAZARDOUS SUBSTANCE INVOLVED?**

☐ **YES: Sections #9 to #11 are Mandatory.**

☒ **NO: Sections #9 to #11 are Optional.**

### **Section 9 – Approvals required**

All staff working with carbon dioxide must be trained on this SOP prior to starting work. They must also review the SDS, and it must be readily available in the laboratory. All training must be documented and maintained by the PI or their designee.



## Section 10 – Decontamination

## Section 11 – Designated area

## Section 12 – Documentation of training

- Prior to using substances included in this SOP, laboratory personnel must be trained on the hazards described in this SOP, how to protect themselves from the hazards, and emergency procedures.
- Ready access to this SOP and to a Safety Data Sheet for each hazardous material described in the SOP must be made available in the lab space(s) where these substances are used.
- The Principal Investigator (PI), or Responsible Party, if the activity does not involve a PI, must ensure that their laboratory personnel have attended appropriate laboratory safety training (and refresher training where applicable).
- Training must be repeated following **any** revision to the content of this SOP.
- Training must be documented. This training sheet is provided as one option; other forms of training documentation (including electronic) are acceptable but records must be accessible and immediately available upon request.



**I have read and understand the content of this SOP:**

Name	Signature	Date
Sam White		09-30-2025