

UCCS SAFE OPERATING PROCEDURE

31. CONDUCTING SAFE CHEMICAL INVENTORIES

(For assistance, please contact [Environmental Health & Safety](#))

Individuals who use, store or handle chemicals are responsible for submitting an annual inventory to [EH&S](#). The inventory must be submitted in an accessible electronic format¹. [Colorado Springs Fire Department](#) requires that chemical inventories be tracked in the “Tier II” format².

As a minimum the inventory will include the following information³:

- Department & Unit Names
- Inventory Date
- Name of Person Conducting Inventory
- Contact information (telephone number and e-mail)
- Chemical Location (building name, room number, if located in specific locker or storage unit indicate as specifically as possible)
- Chemical Label Name
- Container Size (solids by weight, liquids by volume, gases by cylinder size)
- Container Type (e.g. can (CN), glass/plastic bottle (GB, PB), metal/fiber/plastic drum (MD, FD, PD), bag (BG), cylinder (CL))
- Number of Containers (for each size, if in case lots indicate number of containers per case & number of cases)
- NFPA Fire (Red) Rating from label or MSDS
- NFPA Health (Blue) Rating from label or MSDS
- NFPA Reactivity (Yellow) Rating from label or MSDS

A designated person, such as the laboratory manager, may physically conduct the inventory⁴, but the individual responsible for the laboratory (Primary Investigator, Director, Department Chair, etc.) is ultimately responsible for accuracy and must ensure the inventory is submitted by 8/31 annually.

During the course of the inventory, the individual must check the following⁵:

- Condition of containers (no leakage, corrosion, or crystallization)
- Verify that liquids are stored in secondary containment (adequate to contain the contents in catastrophic failure of the primary container) when required
- Hazards are indicated on the individual containers as well as adjacent to the storage location (usually using the NFPA diamond)
- Excess or unused chemicals are returned to stock or properly disposed
- Chemicals are properly stored with incompatibles segregated

Questions and problems should be referred to [Environmental Health & Safety](#).

¹ By e-mail attachment, CD, diskette, or by website link. If a proprietary format is used, the department is responsible for licensing [EH&S](#).

² Attachments A & B are sample spreadsheets. EH&S can easily convert the information from these spreadsheets to the CSFD Tier II format. Departments may contact [EH&S](#) to install the Tier II program on a local computer.

³ The Department/Unit may submit the inventory in a preexisting inventory format, as long as this minimum information is included, [EH&S](#) can open and view the inventory, and the inventory is submitted electronically.

⁴ For some locations, only chemicals with NFPA ratings of 3 or 4 in any category need be submitted. Check with [EH&S](#) if you have over 100 line items in your inventory.

⁵ [http://www.cdphe.state.co.us/cp/Institutions/Schools/Chems In Schools/Rec Proced Chem Inventory.pdf](http://www.cdphe.state.co.us/cp/Institutions/Schools/Chems%20In%20Schools/Rec%20Proced%20Chem%20Inventory.pdf) provides additional safety guidance for the individual conducting the inventory.

Chemical Inventory Format (Appendix A)

Chemical Name	CAS #	Amount, Average Daily	Amount, Max Daily	Days on site	Extremely Hazardous Substance	Hazard: Fire	Hazard: Pressure	Hazard: Reactive	Health Effects: Acute	Health Effects: Chronic
Example Chemical All True					T	T	T	T	T	T
Example Chemical No Hazards										

Chemical Name	Physical State: Gas	Physical State: Liquid	Physical State: Mixture	Physical State: Pure	Physical State: Solid	Storage: Location	Storage: Pressure	Storage: Temperature	Storage: Type
Example Chemical All True	T	T	T	T	T	Campus Building, Room #			R
Example Chemical No Hazards				T	T	Campus Building, Room #			N

Chemical Inventory Required Fields (Appendix B)

REQUIRED FIELDS	ACCEPTED FIELD VALUES	FIELD NUMBER	FIELD NAME
Amount, Average Daily	ranges: 01) 0-99 lbs 02) 100-999 lbs 03) 1000-9999 lbs ... 11) 1 billion + pounds	A03	Avg Amount Code
Amount, Max Daily	ranges: 01) 0-99 lbs 02) 100-999 lbs 03) 1000-9999 lbs ... 11) 1 billion + pounds	A17	Max Amount Code
Chemical Name	string(text)	A12	Entered Chem Name
Days on site	number/string(text)	A11	Days On Site
Extremely Hazardous Substance	yes/no (true/false)	A09	Ci EHS Chemical
Hazard: Fire	yes/no (true/false)	A13	Fire
Hazard: Pressure	yes/no (true/false)	A20	Pressure
Hazard: Reactive	yes/no (true/false)	A22	Reactive
Health Effects: Acute	yes/no (true/false)	A01	Acute
Health Effects: Chronic	yes/no (true/false)	A07	Chronic
Mixture Components: Extremely Hazardous Substance	yes/no (true/false)	C8	Mx EHS
Physical State: Gas	yes/no (true/false)	A14	Gas
Physical State: Liquid	yes/no (true/false)	A15	Liquid
Physical State: Mixture	yes/no (true/false)	A19	Mixture
Physical State: Pure	yes/no (true/false)	A21	Pure
Physical State: Solid	yes/no (true/false)	A23	Solid
Storage: Location	string(text)	B7	Location
Storage: Pressure	1) ambient pressure 2) greater than ambient pressure 3) less than ambient pressure	B5	Pressure Code

REQUIRED FIELDS	ACCEPTED FIELD VALUES	FIELD NUMBER	FIELD NAME
Storage: Temperature	4) ambient temperature 5) greater than ambient temperature 6) less than ambient temp. / not cryog 7) cryogenic conditions	B6	Temperature Code
A) above ground tank B) below ground tank C) tank inside building D) steel drum E) plastic or non-metal drum F) can G) carboy H) silo I) fiber drum J) bag K) box L) cylinder M) glass bottle or jugs N) plastic bottles or jugs O) tote bin P) tank wagon Q) rail car R) other	B4	Type Code	

Notes:

For Mixture Components: if the mixture/compound contains an extremely hazardous component, the code must be checked. The Tier II program does not indicate (with an *) that the component information must be filled in (CAS, Component Name, %, Wt/Vol), but may still make a check that each EHS component's info is included.

Fields containing a yes/no (true/false) value automatically default to no (false).