

CHP Annual Review-Approved Changes

DS/CHO

Section X- Added EPA Methylene Chloride Rule (Dichloromethane/ DCM)

Industrial Uses of DCM:

- Paints & coatings
- Adhesives
- Sealants
- Automotive products

Research Uses of DCM:

- Reaction solvent
- Chromatography
- Cleaning solvent
- Extraction solvent
- Analysis chemical



Carcinogen:
Class 1B

Acute Toxin: 88
occupational
deaths in U.S.
(1985-2024).

[EPA Methylene Chloride Rule](#)

Use of DCM and products containing more than 0.1% of DCM:

- Consumer Use banned after **May 5, 2025**.
- Industrial Use banned after **April 28, 2026**.

Lab use permitted with:

- New exposure limits- **2 ppm (EPA ECEL)** and **16ppm (EPA STEL)**.
- Initial and periodic exposure monitoring.
- **Initial monitoring by 11/2026** Workplace Chemical Protection Program (WCPP).

Existing Chemical Exposure Limits (ECEL)

- **Most exposures can be controlled by the proper use of existing controls without any additional burden on users/PIs.**

<https://www.acs.org/green-chemistry-sustainability/research-innovation/solvents/dcm.html>

New Section XI- 3D Printer Safety

Health and Safety Risks for 3D Printers:

- Exposure to VOCs, UFPs/ nanoparticles and PHS.
- Chemical/thermal burn and electric shock.
- Fire/explosion due to solvents, combustible dust (in powder printing).
- Lasers/UV hazards.

Common types of printers:

- FDM: PLA, ABS, fiberglass, carbon fiber etc.
- Metal powder-Cobalt chrome, stainless steel etc.
- SLA- toxic (PHS) resins
- Pharmaceuticals (pills etc.)
- Bio printer

DS- conducts required air sampling/exposure monitoring and assists with risk assessment and SOPs.

PI- provides special PPE like PAPR required in some processes, external HEPA/charcoal filtered exhaust units, improved ventilation etc. if needed.

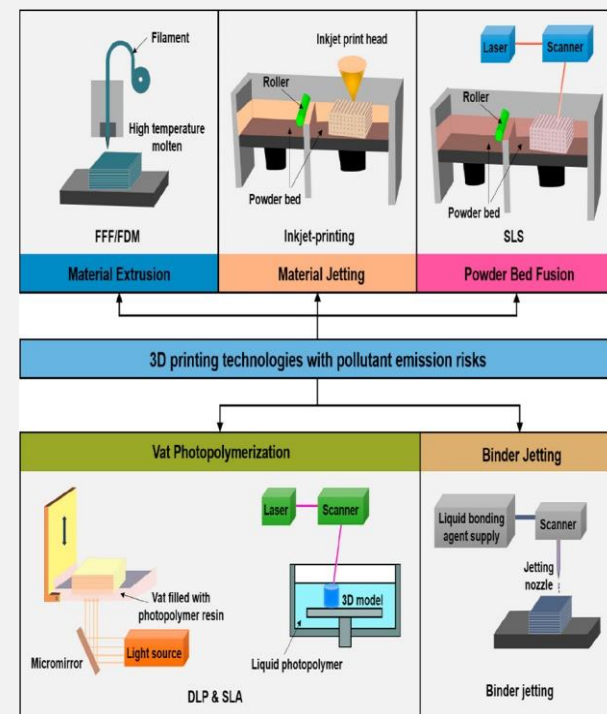


Figure 1. Overview of 3D printing technologies. Abbreviations: FFF, fused filament fabrication; FDM, fused deposition modeling; SLS, selective laser sintering; DLP, digital light processing; SLA, Stereolithography. Image source : [Ke Min et al. via ACS Publications](#)

Old: All flammables over 500ml must be secured in a flammable storage cabinet.

All flammable liquids stored and used in laboratories must be in approved containers.

Types of containers and sizes that are allowed to be used in the laboratories

NEW	Maximum allowed quantities
Class C lab total flammables-storage and in use	50 gallons (class I, II and III combined) including waste
Class 1 total	10 gallons
Total amount "in active use"	10 gallons

Type	Class 1A	Class 1B	Class 1C	Class II	Class III A-B
Glass	1 pint	1 quart	1 gallon	1 gallon	1 gallon
Metal or approved plastic	1 gallon	5 gallons	5 gallons	5 gallons	5 gallons
Safety cans	2 gallons	5 gallons	5 gallons	5 gallons	5 gallons

Must secure everything that is not in active use in approved storage cabinets



**Maximum storage-
60 gallons**

Appendix D- Pyrophoric Chemicals

Change in PPE and administrative controls:

- Fire resistant/NOMEX lab coat with snap front.
- Clothing made of natural fibers like cotton under the lab coat.
- Access to powdered lime or bucket of dry sand within arm's length.
- Develop of SOP.
- **No transfer of more than 10ml of liquid using a syringe, use cannula instead.**



[Managing Pyrophoric and Water Reactive Chemicals in the Laboratories](#)



Fig. 1. Filling syringe using inert gas pressure. Image form Aldrich Tech Buletting [AL-134](#)

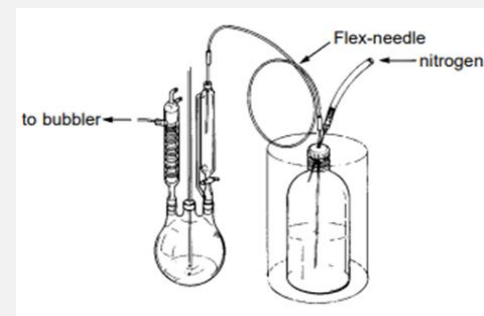


Fig.3. Double-tipped needle transfer. Image from Aldrich Tech Bulletin [AL-164](#)

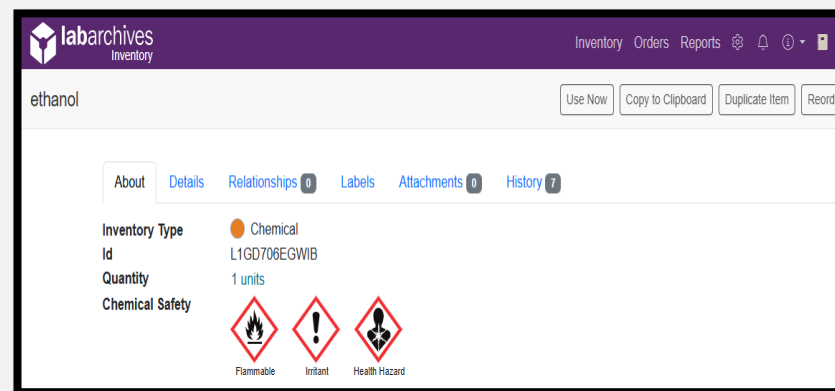
Section VII- Added Chemical Inventory Using LabArchives

Accurate inventory of PHS is mandatory

LabArchives:

- One of the NIH Electronic Lab Notebook (ELN) platforms with inventory module.
- Chemical specific information including hazards/pictograms etc. are auto populated.
- **Laboratories are responsible for the initial set-up and maintenance.**

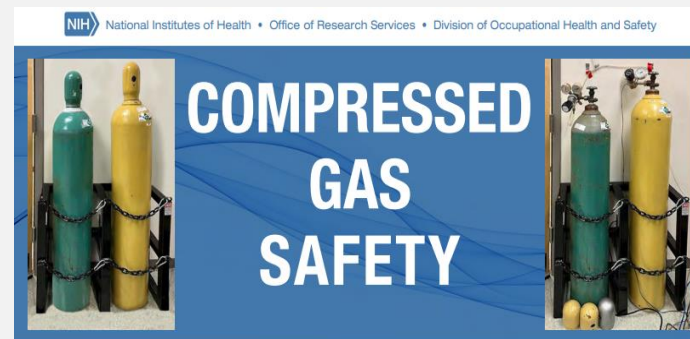
Chemical Inventory is very important for risk assessment and emergency response



Excel export on 12/11/25:

- 370 PIs are using LabArchives for inventory
- 145000 items in the inventory.
- Around 60000 entries in various chemical categories
- Identified new DCM locations.

- Storage areas must be labeled appropriately.
- Users of flammable, corrosive, toxic and oxidizer gases must follow additional recommendations including proper segregation, signage, chemical specific continuous monitoring, SOPs etc.
- **DS- air/exposure monitoring and assistance with risk assessment, SOPs, signage etc.**
- **PI- chemical specific continuous monitoring if needed and appropriate PPE.**



- **Store** cylinders in cool, well-ventilated, fire-resistant areas in compliance with local, state and federal regulations.
- **Separate** flammable gases from oxidizer gases.
- **Secure** cylinders vertically with restraints, maximum two in one strap/chain. Do not roll or drop cylinders.
- **Inspect** cylinders for leaks and check support restraints regularly.
- **Close** valves and tighten caps when not in use.

Questions/Comments? Contact the Division of Occupational Health and Safety's Oxygen Monitoring Program Manager at (301) 3496-3353 or visit <https://go.usa.gov/xEGGg>.



Appendix H-Decontamination and Disposal/Surplusing Laboratory Equipment:

- Follow NIH policy [26101-25-2-04-Personal Property Management Guide](#).
- Decontaminated and tagged with [NIH Form 2683](#).
- PCOs/ICs shall retain all records including NIH Form 2683 in accordance with NIH Records Management and Federal guidelines.

Secondary containment:

- At a minimum, secondary containment must hold the volume of the largest primary container or 10% of the total volume of all primary containers, whichever is greater.

Access to First-Aid for certain chemicals:

- 2.5% calcium gluconate gel for hydrofluoric acid skin exposure.
- Polyethylene Glycol (PEG-300 or PEG-400) for Phenol skin exposure.

Updated Chemical Safety webpage

- Safety Guidelines on Compressed gases and cryogenics
- How to use LabArchives for Chemical Inventory?
- Pyrophoric Safety
- Spill and Emergency Response
- Fact sheets on:
 - PHS
 - Peroxide formers
 - Chemical fume hood
 - Chemical Storage and compatibility
 - Chemical storage cabinets
 - Guidelines for compatible storage for small spaces

As an NIH employee, you should be familiar with the  [NIH Chemical Safety Guide](#) and the  [NIH Chemical Hygiene Plan \(CHP\)](#). The CHP provides basic information regarding how employees must work with, store, and dispose of chemicals at the NIH. You should also be able to read [Safety Data Sheets \(SDS\)](#) and have access to the SDS for any chemical that you work with. OSHA also provides guidance on many chemicals at the following website:  [OSHA Occupational Chemical Database](#).

Select one of the links below for more information:

-  [Chemical Hygiene Plan \(Full Document\)](#)
-  [What's New - Chemical Hygiene Plan](#)
-  [Chemical Safety Guide](#)
-  [NIH Hazard Communication Plan](#)
-  [Safety Data Sheets](#)
-  [Safety Tips for Avoiding Chemical Related Incidents in the Laboratories](#)
-  [Spill in Laboratory](#)

The following list are general classes of chemicals and some helpful information:

Chemical Fume Hood

-  [Fact Sheet on How to Safely Clean Chemical Fume Hoods](#)
- [Chemical Fume Hood Testing](#)
- [Primary Barrier Program](#)

Chemical Inventory

-  [How to use LabArchives for Chemical Inventory](#)

Chemical Storage

-  [Chemical Segregation and Storage Table](#)
-  [Fact Sheet on Compatible Chemical Storage](#)
-  [Fact Sheet on Chemical Storage Cabinets](#)

Cryogenics

-  [Fact Sheet on Cryogenics](#)

