Preface

This catalogue was created to make CCB researchers aware of safety equipment and supplies that are relevant to their research endeavors and to offer a few specific examples of those items that have proven useful in the past. The contents are not comprehensive nor do they address all areas of research where safety equipment is necessary.

Only one item number for each item in this catalogue is given, even if multiple sizes or options are available. An item number search on the relevant vendor’s website should return information on all of the options available.

CCB Safety Office
Mathieu Lalonde (lalonde@fas.harvard.edu)
Converse 226
617-496-8285

Useful safety websites:
CCB Safety www.chem.harvard.edu/safety
Harvard EHS http://www.ehs.harvard.edu

Vendor websites:
AllHeart.com www.allheart.com
Atlantic Nuclear www.atnuke.com
Grainger http://www.grainger.com
McMaster-Carr www.mcmaster.com
Mesa Labs http://www.mesalabs.com
VWR www.vwr.com
Calgonate www.calgonate.com
New Pig www.newpig.com
Covidien www.covidien.com
Rieke www.riekepackaging.com
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Personal Protective Equipment

Gloves

Before laboratory operations begin, data on the chemical resistance of gloves should be consulted to ensure that the gloves being worn are compatible with the substances being handled. This information can be found by consulting the glove manufacturer’s website or the Quick Selection Guide to Chemical Protective Clothing (5th ed.) in the CCB library.

Compatibility charts of various glove manufacturers

Ansell Chemical Resistance Guide

Best Manufacturing Glove Chemical Resistance Guide

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<th>Glove Material</th>
<th>Applications</th>
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<tr>
<td>Butyl</td>
<td>A synthetic rubber material that offers the highest permeation resistance to gas and water vapors. Esp. suited for use with esters and ketones.</td>
</tr>
<tr>
<td>Neoprene</td>
<td>A synthetic rubber material that provides excellent tensile strength and heat resistance. Compatible with some acids and caustics. Moderate abrasion resistance.</td>
</tr>
<tr>
<td>Nitrile</td>
<td>A synthetic rubber material that offers chemical and abrasion resistance- very good general duty glove. Provides protection from oils, greases, petroleum products and some acids and caustics.</td>
</tr>
<tr>
<td>PVC (polyvinyl chloride)</td>
<td>A synthetic thermoplastic polymer that provides excellent resistance to most acids, fats, and petroleum hydrocarbons. Good abrasion resistance.</td>
</tr>
<tr>
<td>PVA (polyvinyl alcohol)</td>
<td>A water-soluble synthetic material that is impermeable to gases. Excellent chemical resistance to aromatic and chlorinated solvents. Cannot be used in water or water-based solutions.</td>
</tr>
<tr>
<td>Viton</td>
<td>A fluoroelastomer material that provides exceptional chemical resistance to chlorinated and aromatic solvents. Flexible, but has minimal resistance to cuts and abrasions.</td>
</tr>
<tr>
<td>SilverShield</td>
<td>A lightweight, flexible, laminated material that resists permeation from a wide range of toxic and hazardous chemicals. Offers the highest level of overall chemical resistance, but has virtually no cut resistance.</td>
</tr>
<tr>
<td>4H</td>
<td>A lightweight, patented plastic laminate that protects against many chemicals. Good dexterity.</td>
</tr>
</tbody>
</table>

Taken from Grainger Chemical Protective Gloves Quick Tips #191
Protector Nitrile/Natural Rubber Gloves, MAPA Professional®
VWR Item # 32930-056 (medium), pack of 12

Hand protection for a wide variety of applications including chemical processing, acid cleaning, construction, food processing, metal machining, and agricultural chemicals.


Note: Not recommended for use with ketones or strong oxidizing acids and organic chemicals containing nitrogen.

VWR Powder-Free Nitrile Examination Gloves
VWR Item # 82026-428 (large), Case of 10

- Ambidextrous gloves are extra soft and comfortable for every day use
- Protect hands from biohazards and a broad range of chemicals
- Beaded cuff allows easy donning

Ideal for use in industrial and laboratory applications. Made of premium compounded nitrile for high manufacturing quality measures and product consistency. Gloves protect against biohazards and a broad range of chemicals. Composition is 100% latex-free to eliminate adverse reactions associated with natural rubber latex proteins. Textured gloves feature rolled, beaded cuffs. Ambidextrous and nonsterile.

4.7mil palm thickness, 5.5mil finger thickness, and 24cm (9 1/2") length. Color: blue.
**Scorpio® Neoprene-Coated Gloves, Ansell**  
Supplier: Ansell Healthcare (VWR catalog#32889-989 for large size)

Style 8-352 gloves offer broad-spectrum resistance to a wide range of chemicals, including oils, acids, solvents, and caustics. Gloves are suitable for petrochemicals and refining operations, cleaning and degreasing, handling specialty chemicals, and plant maintenance. The interlock knit cotton lining and flexible neoprene coating stretch to provide a snug fit and allow easy removal. The two-piece lining eliminates seams that can cause hand irritation and premature wear-through. Pinked cuff edge. A dipped rough finish makes handling wet, slippery materials easier and safer. Hand-specific.

**Butyl Synthetic Rubber Gloves**  
VWR Item # 32892-050 (large), pack of 2

Highly resistant to corrosive acids. Excellent hand protection for handling esters and ketones. Provide the highest permeation resistance against gases and water vapor of any glove material. Injection-molded, hand-specific gloves are nonpowdered, unlined, and unsupported. Cuff is rolled. Smooth, 30mil butyl is flexible and durable, but not as strong as natural rubber.  
**Note:** provides good chemical resistance to bases, alcohols, amines and amides, glycol esters, nitrocompounds, and aldehydes, but does not perform well with halogen compounds, aliphatic hydrocarbons, or aromatic hydrocarbons. Length: 35.6 cm (14"), color: black.
WHIZARD Cut Resistant Glove, Silver, Reversible, M
Grainger item# D2088 ([www.grainger.com](http://www.grainger.com))

Cut Resistant, Ambidextrous gloves with Polyurethane Coating and Dyneema(r) lining. Although these gloves provide the highest level of cut resistance (5), they are not cut-proof nor puncture-resistant. If puncture resistance is desirable, the gloves below would be most appropriate.

Cut Resistant Gloves, Shirred Cuff, Black
Grainger item# D2077 ([www.grainger.com](http://www.grainger.com))

Cut- and puncture-resistant gloves with Dyneema(R) lining.

Cryo-Gloves® Low-Temperature Gloves (Tempshield)
VWR Item # 32885-757 (mid-arm length, waterproof, large)

Protect hands and arms against ultracold temperatures to –196°C (–321°F). An essential accessory when working with LN₂, ultra-low temperature freezers, blast freezers, dry ice, and in coldrooms. Also for use with LNG (liquefied natural gas), liquid helium, and liquid oxygen in enclosed systems. Lightweight, breathable, and comfortable gloves provide warmth while retaining flexibility even after prolonged exposure to cryogenic atmospheres. Gloves allow sufficient dexterity to handle small objects and controls. Waterproof gloves should be selected to protect the user from cryogenic liquids and vapors. Caution: Gloves are not for immersion in LN₂.
SCIENCEWARE® Clavies™ Biohazard Autoclave Gloves, Bel-Art
Supplier: Bel-Art (VWR Item # 32885-804, 13” long)

Soft, pliant, all-cotton terry cloth gloves are superb for handling hot objects out of the autoclave or oven, or for other heat protection in the lab, school or industry. Heat-resistant up to 232°C (450°F), they replace hazardous asbestos gloves. Gauntlets in two lengths provide wrist and forearm protection, and the bright orange color offers high visibility. Machine wash, air dry.

Note: Gloves are not waterproof and should not be used to handle dry ice.
Eye Protection

Any person in a laboratory must wear (at a minimum) one of the following forms of eye protection at all times:
1. safety glasses
2. prescription safety glasses with side shields
3. safety goggles (glasses can be worn underneath)
4. over the glasses (OTG) safety glasses

Note: Specialized eye protection is necessary when working with lasers. See the Harvard University Radiation Safety Manual for more information.

Uvex Astro OTG™ 3001 Safety Eyewear
Supplier: Sperian Protection (VWR Item # 33000-508)

Specially designed to fit comfortably and attractively over prescription eyewear. Adjustable temple length and lens inclination provide a close-to-the-face fit. Duoflex™ temples feature comfort cushions for extended use. Patriot® RWB frames have a red, white, and blue design with miniature U.S. flags on the temples. Easily replaceable lenses are available with scratch- and chemical-resistant Ultra-dura® coating or Uvextreme® AF antifog, antistatic, anti-scratch, and anti-UV coating. Meets ANSI Z87+ and CSA Z94.3 standards.
Uvex® Hang Cords, Sperian Protection
Supplier: Sperian Protection (VWR Item #26902-502, pack of 25)

Comfortable to wear, these hang cords help prevent spectacles from slipping and falling, and provide convenient access to safety eyewear. The adjustable Universal neck cord with hoop attachment fits all Uvex® spectacles. The Duoflex™/Snap-fit neck cord fits all Uvex spectacles with Duoflex temples or pierced temple ends.

Uvex Flex Seal® Safety Goggles, Sperian Protection
Supplier: Sperian Protection (VWR Item # 33002-546)

Lightweight silicone body conforms to the face to protect against impacts and chemical splashes. The silicone is cured to stay soft and supple even in extreme temperatures. Low-profile and optically correct clear polycarbonate lens provides the full field of vision. Uvextreme® antifog lens coating and indirect venting system minimize fogging. Goggles fit over most prescription eyewear and feature pivoting clips that permit the wearer to position them on a hard hat or position the headband above the ears. Frame color: navy. Goggles meet ANSI Z87+ and CSA Z94.3 standards.

Safety Glasses Holder, Brady®
Supplier: Brady Worldwide (VWR Item # 56606-554)

Promotes safety in the workplace. Eye protection is available quickly and conveniently with this attractive, durable, acrylic plastic unit. Mounts on walls, desks—wherever safety spectacle usage is required. Backplate is 15.8Hcm (6’/4").
**FACESHIELD CHEM-RES ANTFOG CS1**  
Supplier: Oberon (VWR Item # 57200-100)

With ratchet adjustable headgear and permanent anti-fog inner surface. Coated by Silicote*-6 chemical-resistant coating to protect polycarbonate from many mild acids (except hydrofluoric acid), bases, and solvents. Shield is 20.3x35.6cm and 2mm thick. To be worn in conjunction with safety glasses or goggles.

**Uvex Bionic® Face Shields, Sperian Protection**  
Supplier: Sperian Protection (VWR Item # 33002-536)

Face shields feature a clear polycarbonate visor that provides enhanced protection from airborne debris and increased visibility. The visor has a secure attachment with dual position choices and is easily replaceable. Lightweight, balanced ergonomic design permits extended use and a comfortable fit with most goggles and respirators. The headgear has comfortable cell foam, and the removable headband is breathable and washable. Finish: black matte.  
The hardhat adapter permits quick and easy attachment to most hardhats, allowing for full head and face protection. Bionic® ratchet suspension is easily adjustable, and ensures a secure and comfortable fit.  
Note: Face shields offer secondary protection and must be worn with spectacles or goggles.
**VWR® Lens Cleaning Wipes and Lens Cleaning Station**  
Supplier: VWR International (VWR Item # 89203-550, 120 wipes)

Pre-moistened lens cleaning wipes clean safely and effectively without streaks, residue, or scratching. Heavy-duty, biodegradable wipes also fight fog buildup. Wipes helps lenses stay clean longer and resist static. Dispenser box is convenient and portable for use anywhere, anytime. Not for use on contact lenses or specially coated optical lenses, such as anti-glare coatings.  
Lens cleaning station includes one bottle of special antifog, antistatic solution and one pack of heavy-duty lens cleaning tissues. Solution cleans and coats the lens, and will not leave any excess liquid on the lens surface. Disposable stations can be positioned close to workers and easily moved.

**SCIENCEWARE®, Large Weighted Safety Shields, Bel-Art**  
Supplier: Bel-Art (VWR Item # 13197-366)

Clear, 4.8mm (³/₁₆") thick polycarbonate barriers have very high impact resistance. Three-sided construction provides stability and protects workers to the front and sides from flying debris. Heavy steel perimeter base is coated with green epoxy. Plated steel bolts, nuts, and washers are used for assembly.
E-A-R™ Classic™ Foam Earplugs, 3M™
Supplier: 3MVWR (Item # 47751-992, pack of 200)

Earplugs provide a comfortable, effective seal while exerting low pressure in the ear. They gradually expand and conform to the ear canal for a custom-fit seal. Washable, flame-retardant, and moisture-resistant.
CCB Safety Catalogue

Lab Coats and Spare Clothing in CCB

CCB offers a lab coat service to researchers. Lab coats can be taken from any rack in the department. It is recommended that the lab coat be worn for one week before it is placed in the laundry bin and a freshly laundered lab coat is taken from the rack as a replacement.

Nomex fire-resistant lab coats must be worn when handling pyrophoric substances. These blue lab coats can be found next to the safety office (Converse 226).

In the event that your lab coat becomes chemically contaminated, consult the Science Safety Officer to determine whether the lab coat can be placed in the laundry bin or must be treated as hazardous waste.

In the event that your clothing becomes chemically contaminated or damaged in a laboratory accident, spare clothing is available to you in the labeled lockers outside of the CCB Safety Office. It is hoped that this will help encourage the prompt removal of contaminated clothing and the use of safety showers when appropriate. You, or someone acting on your behalf, may retrieve this clothing when the need arises.

In the lockers you'll find:
- surgical scrubs (tops and bottoms)
- sweatpants and sweatshirts
- socks
- rubber shoes
- bath towels

Silver Shield®/4H® Apron, North Safety Products
Supplier: North Safety (VWR Item # 11000-640)

Apron features a five-layer fabric compacted into 2.7mil. Laminating a high-energy polymer (EVOH) with a low-energy polymer (PE) creates a fabric impervious to at least 90% of all organic chemicals for four hours at 35°C (95°F). Each layer acts as a barrier against various epoxies and industrial chemicals. Protects against splashes and spills. The apron is large enough to cover the front of the body and is easily adjustable using the attached ties. One size fits all.
Chemical Spill Response

Read the CCB Chemical Spill Policy available on the CCB Safety Website. This document provides criteria to assist in evaluating when local researchers can address a chemical spill (minor spills) and when outside help is necessary (major spills). It also offers guidance on how to clean up a minor spill. Even if the spill meets the characteristics of a “minor” event, no researcher should address a spill if s/he is uncomfortable doing so or if the spilled substance poses a substantial health hazard.

SpillSolv® Laboratory Spill Kits, EMD Millipore
Supplier: EMD Millipore (VWR Item # EM-SX1300-1)

For safe, easy, effective spill treatment in the laboratory. SpillSolv® kits are available for acid, caustic, solvent, formaldehyde, or mercury spills. Also available is a multipurpose spill kit that contains spill response materials for a combination of spills.

Agents are formulated to rapidly clean up chemical spills and vapors. Each bottle has a convenient dispensing cap for shaking or pouring.

Caustics and acids are converted into nonhazardous compounds that meet EPA specifications for nonhazardous waste, simplifying cleanup and disposal. Solvent spills can be easily treated and transported with the adsorbent in the solvent spill kit. This adsorbent will also act as a vapor suppressant. The formaldehyde spill kit contains a two-part neutralization and immobilization system that effectively neutralizes formaldehyde solution spills. The multipurpose kit can treat up to a 4L (1.1gal.) solvent spill or a 2.5L (0.7gal.) acid and caustic spill.

The mercury spill kit controls mercury spills in minutes using a simple, two-step procedure. Also included is a mercury vapor suppressant adsorbant, which is ideally suited to penetrate inaccessible areas such as cracks and crevices. The SpillSolv® mercury spill kit can be ordered separately (VWR item# EM-SX1350-1)
Calgonate Hydrofluoric Acid Spill Kit
Supplier: Calgonate (www.calgonate.com)

For minor hydrofluoric acid spills that appropriately trained researchers can address themselves. Only HF specific absorbents can be used to address an HF spill (do NOT use SpillSolv® acid spill reagent or carbonate bases to treat an HF spill). Typical spill absorbents contain silica, which can react with HF to produce the toxic gas silicon tetrafluoride. A hydrofluoric acid spill kit can be obtained from outside of the CCB Safety Office. Contact the CCB Safety Office (Mathieu Lalonde, lalonde AT fas.harvard.edu) to arrange for a spill kit to be provided to your research group.

PIG® Universal Pads and Rolls, New Pig
Supplier: New Pig (VWR Item # 46000-492, 15x20”, 100 pads)

Polypropylene absorbent pads and rolls are designed to safeguard walking areas against liquids that could cause accidents and for daily protection in areas prone to overspray or sporadic drips, such as under conveyors. Dark gray material is dimpled for quicker absorption of water-based liquids, petroleum products, solvents, and a broad range of chemicals. Lightweight pads and rolls are flexible for wiping up small leaks and lining tool boxes and benches. Mediumweight pads and rolls are versatile for general use. Heavyweight pads and rolls are constructed for large-volume cleanups. Rolls are perforated every 25.4 cm (10”) for tearing off the length of pad needed. Can be wrung out and incinerated after use to reduce waste.

Note: Given capacity is absorbency capacity of entire package.
DRI•ZORB SPC Maintenance Absorbent (40-lb. Bag)
Grainger item# 3RPP6

A product that absorbs oils, greases, water, and most chemicals. Not to be used for strongly acidic or basic spilled materials or for spilled oxidizing reagents. Made from corncob into granules that are dust free and easy to clean up.

Hazardous Material Disposal Bags
Grainger item# 3WNA5 (33" x 60," 24 pk)

Hazardous Material Disposal Bags hold saturated cleanup materials for safe, proper disposal. Each opaque, bright yellow bag is identified with a large, bold, continuous message, “HAZARDOUS MATERIAL, HANDLE WITH CARE.” Super-strong construction. Carton of 24 bags includes tags and ties. After clean-up, bags can be taped closed, labeled with hazardous waste tag, and removed by Triumvirate as hazardous waste.
Hazardous Waste

University policies for the management of hazardous waste can be found at the link below. Proper management of hazardous waste includes:

- Correctly identifying wastes as hazardous.
- Storing wastes in a properly labeled and closed container.
- Adequately segregating waste containers and ensuring secondary containment to reduce spills.
- Performing weekly visual inspection of waste areas.
- Ensuring the timely removal of waste via EH&S waste pick-up services.

www.uos.harvard.edu/ehs/env_pro_haz.shtml

Polyethylene Hazardous Waste Pails
Grainger item# 8AYN0

Tight-Head Polyethylene Pail, 5-gal, round, 14-3/4"H x 11-1/2"W, translucent. The pail is compatible with organic solvents as well as acidic and basic aqueous solutions.

Reike Caps and Vents for Polyethylene Hazardous Waste Pails
Made by Rieke (www.riekepackaging.com)
Available from Basco (http://www.bascousa.com)

FS-70 ventable caps

Micro-porous vents for FS-70 caps
FS-80 solid, non-ventable caps

**Life Latch® Containers**
Supplier: M&M Industries (VWR Item # 56617-755)

Maintain the integrity of your products with these child-resistant, senior-friendly, and tamper-evident containers. To close, simply screw on lid and listen for the “ratchet” sound ensuring a secure seal. To open, squeeze the trigger and turn the lid counter-clockwise. No tools required. Puncture-resistant pails are constructed of high-density polyethylene. Plastic handle provides convenient handling. Nestable for storage.

UN approved for shipments of Class II and Class III hazardous chemicals. Meet D.O.T. Title 49 CFR performance requirements.

**RCA Hazardous Waste Containers**
Supplier: Covidien (item# 8602RC, hinged lid with snap cap, black 2 gallon)

SharpSafety™ RCRA Hazardous Waste Container for disposal of chemically contaminated sharps. Available from the VWR stockroom.
HPLC Waste Adapter Funnel
ECO Funnel™, 8" Top Diameter, HPLC Waste Hook Adapter
VWR #33501-498, 70mm thread
VWR #80061-5382, 38-430 thread

HPLC ECO Funnels are equipped with a HPLC fitting located on the side of the body of the Funnel. This will allow the operator to connect the HPLC waste line directly to the Funnel. HPLC adapters come in 4 different sizes for your needs: 1/16", 1/8", 1/4", and 3/8"

Secondary Containers
12-quart, top diameter: 17", height: 4 ¼”, bottom diameter: 13 ½”, 27 ounces.
Available from VWR Stockroom, Dare Products Item # 1604

Large secondary container suitable for hazardous waste or potentially leaky containers to be set inside.
Secondary Containment Pans, High-Density Polyethylene, NALGENE
VWR Item # 62662-875 (14 1/8” L x 12 1/8” W x 5 5/8” H)
VWR Item # 62662-886 (21 3/8” L x 17 1/8” W x 5 1/8” H)

Pans suitable to house hazardous waste or potentially leaky containers. Pans are constructed of high-density polyethylene for rigidity and durability with handles for easy carrying.

Hazardous Waste Tags

These tags are available free of charge from the CCB Mailroom, 2nd floor Converse Lab or on the shelves near the safety office (Converse 226).
BDH® pH Test Strips (pack of 100)
Supplier: BDH (VWR item# EM-9590-1)

Used for rapid pH testing directly at the point of interest, strips are always ready for immediate use. They are also suitable for careful testing of dangerous, poisonous, or aggressive liquids as the long handle prevents fingers from coming into contact with the sample. The dye is chemically bound to the test strip and cannot bleed into the sample, protecting against contamination and enabling measurement in weakly buffered or strongly alkaline solutions. Included color chart has 4 different color blocks for each pH value, enabling highly precise pH determination. Strips are available in 13 different pH ranges with accuracy down to 0.2 pH units. Dimensions: 85Lx6Wmm.
Chemical Handling and Storage

**AkroBins®, Bin Dividers, and Hanging Systems, Akro-Mils™**
Supplier: Akro-Mils (VWR item# 62661-504)

Create efficient storage quickly and easily. Heavy-duty polypropylene AkroBins® bins are waterproof, rustproof, corrosion-resistant, and impervious to weak acids and alkalis. Each bin is designed with an anti-slide stop, reinforced ribs, and a wide ridge for multi-level stacking. A full-length hanger lip supports even heavy loads when bin is suspended on a bin panel or bench rack hanging system. Bins are autoclavable to 250°C (482°F).

Clear polystyrene lids keep products clean, dust-free, and visible. Bin dividers maximize space for storage of smaller parts and accessories.

Bin panel **62661-490** and bench rack **62661-498** are specifically designed to organize AkroBins® bins. The 16-gauge steel louvered bin panels with gray baked enamel finish are mountable on almost any vertical surface. The freestanding bench rack with gray baked enamel finish provides heavy-duty desktop storage. Bin panels and bench racks can be used with any size AkroBins® bins.

**Ordering Information:** Bins, lids, dividers, and supports are ordered separately. Use model numbers to match components.
VWR® Bottle Tote™ Safety Carriers  
Supplier: VWR International (VWR Item # 56608-970, large, red)

Carriers are designed for the safe transport of acids, alkalis, and solvents. High in tensile strength, carriers can be used in temperatures from –45 to 110°C (–49 to 230°F) and can be steam sterilized. Centering ring in base assures a 2.54cm (1") clearance between bottle and wall of carrier. Molded-in handle gives a comfortable grip. The small carriers can accommodate 500mL (16.9oz.) or 1L (33.8oz.) bottles. The large carriers can accommodate 2.5L (84.5oz.) or 4L (135oz.) bottles.

Flammables Safety Storage Cabinets, SECURALL®  
Supplier: Securall Cabinets (VWR item# 15001-666, 65” H x 43” W x 18” D)

Cabinets are constructed of tough, double-walled 18-gauge galvanized steel with 3.8cm (1 1/2") air space between walls and 5.1cm (2") vent with flash arrestor. Complete with grounding attachments, three-point latching system, 5.1cm (2") raised leakproof sills, and yellow enamel finish. Equipped with a large warning sign (“FLAMMABLE – KEEP FIRE AWAY”), flush mounted locking handle, and leveling legs. Cabinets are supplied with one or two adjustable steel shelves.

All cabinets comply with OSHA regulations and are designed in accordance with the standards of NFPA Code 30.
Sure-Grip® EX Safety Cabinets for Corrosives, Justrite™
Supplier: Justrite (VWR item# 97001-212, 44” H x 43” W x 18” D)

Steel cabinets store corrosive liquids and acids safely and securely, protecting both personnel and facilities. Cabinets are constructed of sturdy 18-gauge steel and are welded for strength and a long service life. The double-wall design features a 3.8cm (1 1/2”) insulating air space and a three-point stainless steel bullet latching system. All cabinets feature a corrosion-resistant powder-coat finish.

Exclusive Sure-Grip® EX features include U-Loc™ handles that include two keys and accept padlocks, Haz-Alert™ reflective exterior labeling for easy identification in fire conditions or power outages, and galvanized steel SpillSlope™ shelves that safely direct all spills to the 5.1cm (2”) leakproof sump. Adjustable shelves provide a 159kg (350lbs.) safe allowable load. Polyethylene trays are included to protect steel shelves from harsh chemicals. A built-in grounding connector prevents static build-up. Four adjustable leveling feet ensure a wobble-free base.

Modular Slimline cabinets allow users to segregate incompatible liquids and provide a space-saving alternative to standard units. Countertop and Compac cabinets provide safe storage when available space is at a minimum. Undercounter cabinets offer quick access at workstations and are sized and fitted with a recessed kickplate to mount flush with existing cabinetry. Piggyback cabinets are designed to mount on top of existing Justrite cabinet structures (except sliding door cabinets), but can also be used independently as benchtop units. Color: blue.

Note: Steel corrosive cabinets are not recommended for the storage of phenol, nitric acid, or sulfuric acid.

Ordering Information: All cabinets are supplied with a manufacturer's 10-year warranty. Cabinets 97001-212 and 97001-370 include an extra poly work tray that can be secured to unit top and used as worksurface.

All cabinets are OSHA compliant, meet NFPA Code 30, and are independently tested and FM approved.
VWR® Explosion-Proof and Flammable Material Storage Refrigerators, Freezers, and Combination Units
Supplier: VWR International (VWR item # 47747-224, flam. mat. refrigerator/freezers, -1 to 8°C/-20 to -12°C)

- For Safe, Cold Storage of Volatile Materials
- VWR Two-Year Limited Parts and Labor Warranty

To ensure maximum safety in today’s workplace, VWR offers a complete line of specially designed and constructed explosion-proof and flammable material storage refrigerators, freezers, and combination units. They feature a spark-proof, corrosion-resistant interior with steel encased electrical components, hermetically sealed compressors, adjustable temperature controls, and nonsparking magnetic door gaskets.

All models except 47747-224 are UL listed. All models meet OSHA and NFPA safety requirements. Models 47747-226 and -228 are also CSA certified. Explosion-proof models must be hard-wired at installation in compliance with NFPA standards and local codes.

Gas Cylinder Tags
Grainger item #9HN35, 100 pack

Perforated tags include wire ties. Tear off perforated sections to indicate full, in service or empty.
**Aldrich® AtmosBag**
Sigma-Aldrich item # Z530220, zipper lock closure

AtmosBag glove bag is a flexible, inflatable polyethylene chamber with built-in gloves that lets you work in a totally isolated and controlled environment. It is an inexpensive, portable alternative to the glove box and is well suited for the handling of solid pyrophoric substances. The opening of AtmosBag is closed with a Zipper-lock for a gas-tight seal. The opening is slightly smaller than the width of the bag due to the width of the zipper. Excellent for applications that require repeated access to bag contents and for emergency isolation.

**Aldrich® Benchrack™ portable lattice system**
Sigma-Aldrich item # Z225657

Portable lattice systems fit easily on a bench or in a fume hood and may be disassembled for storage or transport. Solid aluminum lattice rod sections, 11 3/4 in. L, screw into each other for extra height. Nonslip rubber feet on base. Entire system assembles without tools. For more permanent setups, machined flats on lattice rods may be tightened with a wrench (included). Available in two standard sizes. Also available in a mini-size for use with small and microscale glassware and in medium and large size Aldrich AtmosBags.
Plastic-Coated Solvent Bottles and Metal Cans

Solvents and acids should be purchased in plastic-coated glass bottles or metal cans in order to minimize the potential for chemical spills in the event of an accidental physical impact.

<table>
<thead>
<tr>
<th>VWR catalog #</th>
<th>Description</th>
<th>Grade</th>
<th>Packaging</th>
</tr>
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<td>JT9006-3</td>
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<td>ACS</td>
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</tbody>
</table>
Organic Peroxides

Organic Peroxides are among the most hazardous substances handled in the lab. They are sensitive to shock, sparks, or other accidental ignition. Never distill a peroxide forming substance (e.g. diethyl ether) unless it has been shown to be free of peroxides.

These compounds can readily form peroxides when exposed to atmospheric oxygen and light:
- ethers, esp. cyclic ethers and those containing 1<sup>º</sup> and 2<sup>º</sup> alkyl groups
- compounds containing allylic hydrogens (C=C-CH), including most alkenes, vinyl, and vinylidene compounds.
- compounds containing benzylic hydrogens
- compounds containing a 3<sup>º</sup> C-H group (decalin and 2,5-dimethylhexane)
- aldehydes

*If you encounter a reagent that you suspect has formed peroxides, contact the CCB Safety Office or Harvard EHS to arrange to have it removed. Do not handle the reagent yourself.*

Peroxide Forming Material Tags

Peroxidizable Material Tags are available in the CCB mailroom (Converse 221) or on the shelves next to the safety office (Converse 226). These should be attached to all peroxides and peroxide forming materials. When storage time limit is nearly exceeded, label as hazardous waste and dispose of by placing in the main accumulation area.
**Peroxide Test Strips**  
VWR item #EMD-10011-1 or JT4416-1  
Available in the VWR stockroom.

Follow instructions to obtain semi-quantitative peroxide levels in ~15 seconds.
Biosafety

Harvard Biosafety:  [www.hms.harvard.edu/orsp/coms](http://www.hms.harvard.edu/orsp/coms)

EHS Biosafety: [http://www.ehs.harvard.edu/services/biosafety](http://www.ehs.harvard.edu/services/biosafety)

CCB Biosafety: [www.chem.harvard.edu/safety/biosafety.php](http://www.chem.harvard.edu/safety/biosafety.php)

Spore Test Kits
Mesa Labs: [http://www.mesalabs.com/spore-strips](http://www.mesalabs.com/spore-strips/)

For autoclave validation. Mesa Labs offers a complete line of spore strips for sterility testing in various sterilization environments for both Healthcare and Industrial applications. Mesa’s products are manufactured in accordance with USP Guidelines and the US Food & Drug Administration’s Quality System Regulations.

Biowaste Boxes w/ liners
(free): Supplies and special pick up request call 617-495-2345.

Cartons allow safe, convenient disposal and incineration of biohazardous waste. The entire cardboard carton is designed to be burned along with its contents.
Sharps container systems provide solutions for the safe and effective containment and disposal of contaminated needles, syringes, and other sharps. Choose from three different systems in a variety of sizes.

The stackable sharps containers are puncture-resistant and autoclave- and incinerator-safe. They feature transparent, locking lids, and needle removal ports. The tortuous path systems restrict hand entry.

Radiation Safety

**Harvard Radiation Safety Office**

Harvard University Department of Environmental Health & Safety  
46 Blackstone Street  
Cambridge, MA 02139  
Telephone: (617) 496-3797 or (617) 495-2060, prompt 2  
radiation_protection@harvard.edu  
http://www.ehs.harvard.edu/services/radiation-protection

Items supplied free of charge by the Radiation Protection Office:

- Waste tags  
- Small bags  
- Large Bags  
- Nylon Ties  
- Liquid Waste containers w/ absorbent

**Ludlum Model 3 Survey Meter** (standard recommendation for beta/gamma detection)  
Atlantic Nuclear, [http://www.atnuke.com/nuclear/INSTRUMENTATION/Lud/ludlum.htm](http://www.atnuke.com/nuclear/INSTRUMENTATION/Lud/ludlum.htm)

- Model 3 Survey Meter (200 mR/hr)  
- Model 2401 P Pancake GM Pocket Meter (beta and gamma detection)  
- Model 2401 S Scintillation Pocket Meter (NaI probe, for I125 detection)

The Model 3 is a GM-scintillation survey meter that operates on two “D” cells for approximately 200 hours. Adjustable HV ranges to 1500 volts. External calibration pots is included. Standard scale is “0.5-kcpm” and “bat ok”. The four counting ranges are x0.1, x1, x10, x100. (Dual scale, mR/hr & cpm available on special request.) The Model 3 is supplied as shown with built-in speaker, strain relief cable, probe clip-on handle, two “D” cell batteries and standard factory calibration. These meters must be calibrated annually by the Harvard Radiation Safety Office.

Also available through Atlantic Nuclear ([www.atnuke.com](http://www.atnuke.com)):

- Shielding  
- lock boxes  
- decontamination products
First Aid

First Aid Kit
Provided by CCB Dept and located in hallways throughout the CCB complex.

First Aid Station provides an assortment of products that provide care for minor cuts, burns, and discomfort.

Calgonate® Emergency First Aid Kit
Supplier: Calgonate (www.calgonate.com)

This convenient kit contains over 30 items for HF exposure response and general workplace first aid.

- First Aid instructions for HF burns
- 2 X Tubes of Calgonate® Gel (25g each)
- 2 X Bottles of Calgonate® Emergency Eyewash (120ml squirt bottle)
- 1 pair of Medical Scissors
- 1 Exposure incident report sheet
- 6 X 3”x3” Gauze Pad
- 4 X (2 5/8”x 1 5/8”) Oval Eyepad
- 6 X 4”x4” Gauze Pad
- 2 X 3” Conforming Stretch Gauze Bandage
- 2 X 2” Conforming Stretch Gauze Bandage
- 2 X 59ml bottle of first aid antiseptic spray
- 2 X Ammonia Inhalant – Respiratory Stimulant
- 2 X 5”x9” Sterile Combine Pad
- 1 X ½”x180” Roll of waterproof adhesive tape
- 1 Cold pack – instant cold compress
- 2 Pairs of medical gloves
- 1 Pupil gauge - 2 X 8”x10” ABD Pad – extra absorbent
Calcium gluconate gel for hydrofluoric acid exposures
Available in the VWR stockroom.
VWR Item # 101320-858, pack of 3x25 g

Visit [www.chem.harvard.edu/safety/labsafety.php](http://www.chem.harvard.edu/safety/labsafety.php) to obtain the CCB *Guidelines for the Safe Use of Hydrofluoric Acid*. The proper use of calcium gluconate gel in the First Aid treatment of hydrofluoric acid skin exposures is described in detail.

**Calgonate® Emergency Eyewash**
Supplier: Calgonate ([www.calgonate.com](http://www.calgonate.com))

Calgonate® Emergency Eyewash is a sterilized solution containing Calcium Gluconate USP 1% w/w as well as sodium chloride (saline), sodium borate, boric acid, and benzalkonium chloride in purified water to provide an isotonic. This buffered, sterile, pH-balanced eyewash is suitable for first aid eye irrigation. Calgonate® Emergency Eyewash is indicated to flush loose or liquid acid, alkali, or particulate foreign material from the eye, and help relieve or prevent potential irritation, pain, and damage.

**Amyl Nitrite Ampoules**

If a person is experiencing clinical symptoms of cyanide poisoning from an exposure:
1) Terminate exposure
2) Call 911 to obtain medical assistance
3) The victim should inhale the contents of a broken amyl nitrite ampoule

Contact Mathieu Lalonde ([lalonde@fas.harvard.edu](mailto:lalonde@fas.harvard.edu)) to sign out amyl nitrite ampoules from the CCB Safety Office if your research involves cyanide compounds.
**Miscellaneous**

**Staples® Box Cutter**
Staples item# 506873

- Portable pocket-size utility knife (measures only 4" long 1/8" thick)
- Blade slides into knife when not in use
- Fits standard razor blades

**Stretch Wrap and Strapping Cutters, Martor USA**
Supplier: Martor (VWR item# 61200-300)

These stretch wrap and strapping cutters feature blades installed safely away from user’s fingertips. The Combi cutter uses a 0.40mm blade. The Folex cutter features a 0.10mm blade ideal for use with thin materials.

**Automatic Retractable Cutters and Knife, Martor USA**
Supplier: Martor (VWR item# 61200-304)

Optisafe and Maxisafe knives feature a safety spring that allows the automatic blade to “shoot-back” into the handle even in response to any uncontrolled movement. The Maxisafe knife has a longer blade extension than the Optisafe knife. The Maxisafe three-sided cutter is similar to the Maxisafe knife, except it features a three-sided blade slider.

The Multisafe safety knife has a die-cast zinc body and spring-loaded blade slider on top for horizontal cutting work only.

The Profi automatic retractable safety knife is equipped with a lightweight aluminum body and a
deep-edged trapezoid blade. The spring-loaded blade retract system is designed to respond to any uncontrolled movements, or when the thumb is removed from the slider.

The Ultrasafe safety knife with automatic open-frame blade guarding function is ideal for safe opening of plastic and paper sacks.

**VWR* SoftGUARD* Extra-Strength Barrier Hand Cream**
VWR item# 56614-414, Pump Bottle, 473 mL (16 oz.)

Designed specifically for laboratory workers who glove and wash frequently. Hand cream creates a unique protective barrier over your skin that helps prevent and relieve the irritation caused by latex chemicals, powder in gloves, and harsh soaps. Also protects against excess water and harsh soaps encountered during multiple washings. Cream is nongreasy, fragrance-free, and absorbs immediately. Contains no petroleum, petrolatum, mineral oils, or other ingredients that deteriorate latex. Meets medical environment prerequisites, including a strong preservative system and CHG soap compatibility.

**VWR* SoftCIDE* Extra-Mild Hand Soap**
VWR item# 56614-420, Pump Bottle, 946 mL (32 oz.)

Unique formulation helps replenish skin’s natural oils that are rinsed away by frequent washing. Soap has antimicrobial strength but is extra mild on hands. Contains 1% chloroxylenol (PCMX), a fast-acting, broad spectrum antimicrobial ingredient that is effective against gram-negative and gram-positive bacteria as well as yeast.
Hand Sanitizer Gel
VWR item# 89005-474, pump bottle

Non-drying, antimicrobial hand gel can be used anywhere soap and water are not available. Effective against a broad spectrum of microorganisms. Quick-drying gel leaves no sticky residue and is ideal for reducing bacteria on hands prior to gloving. Special emollients in the 62% ethyl alcohol formula help moisturize hands and prevent chapping. Meets OSHA requirements for hand washing.

Thermometer exchange info for CCB
When mercury thermometers in the laboratory break, the released mercury poses a health and environmental hazard. Thus, every effort should be made to eliminate the presence of mercury thermometers in CCB labs. Mercury thermometers can be brought to the VWR stockroom and freely exchanged for an alcohol thermometer. The CCB Dept. will pay for the disposal of the mercury thermometers and the spirit-filled replacement.

Polyethylene Mesh sleeves for rotary evaporators and vacuum glassware
McMaster-Carr (www.mcmaster.com) per linear foot
3-4” diameter, green, #5969K27 (for rotary evaporator condensers)
4-5” diameter, orange, #5969K28

Should be placed over glass rotary evaporator condensers and other glassware that could implode. These diamond-pattern mesh sleeves are made of polyethylene and have good chemical resistance. They can be easily cut to size with scissors. Elastic sleeves stretch to snugly fit irregularly shaped objects. Approx. 1/16" thick.
Antifatigue Mat  
Grainger item# 6ENK0 (5’ x 3’ x 9/16”)

Provides restful, relaxing support for employees who stand at work.

Broken Glass Disposal Carton  
VWR item# 56617-801, 6 pack

Disposable cardboard receptacles with 2mil thick polypropylene liner safely contain broken glass and residual liquids. Entire unit may be disposed of as a whole once safety cap is pulled into place. Available in floor and benchtop models.  
Optional, reusable carton cover (for floor model only) provides a wider opening 20.3 x 24.1cm (8 x 9.5”) permitting safer and more sanitary deposit of wastes into the container. Opens quickly and easily by pressing the built-in release tab - no batteries required! Features a smooth 10.1 x 10.1cm (4 x 4") area on top for applying labels. Autoclavable lid is color-coded for easy identification.
**Kantleke® Gas Burner Tubing**
VWR item# 17951-037

Flexible and rugged, Kantleke gas connectors have a central core of rust-resistant galvanized steel packed in rubber. This flexible metal hose is covered by a polyvinyl chloride sheath and a strong polyester braid outer layer. Rubber fittings are slipped onto nozzles until firmly engaged. To maintain seal safety, connectors should not be kinked, twisted or torqued. Once installed, the connector should be discarded after disconnection. Tubing length: 91.4cm (36”).

**Water Tubing Clamps**
Supplier: Ace Glass (VWR item# 89075-638, Box of 100)

Water tubing should be secured to prevent unintentional disconnection resulting in a flood or unsafe experimental conditions. Consider using the simple tubing clamps (see below) available from Ace Glass.