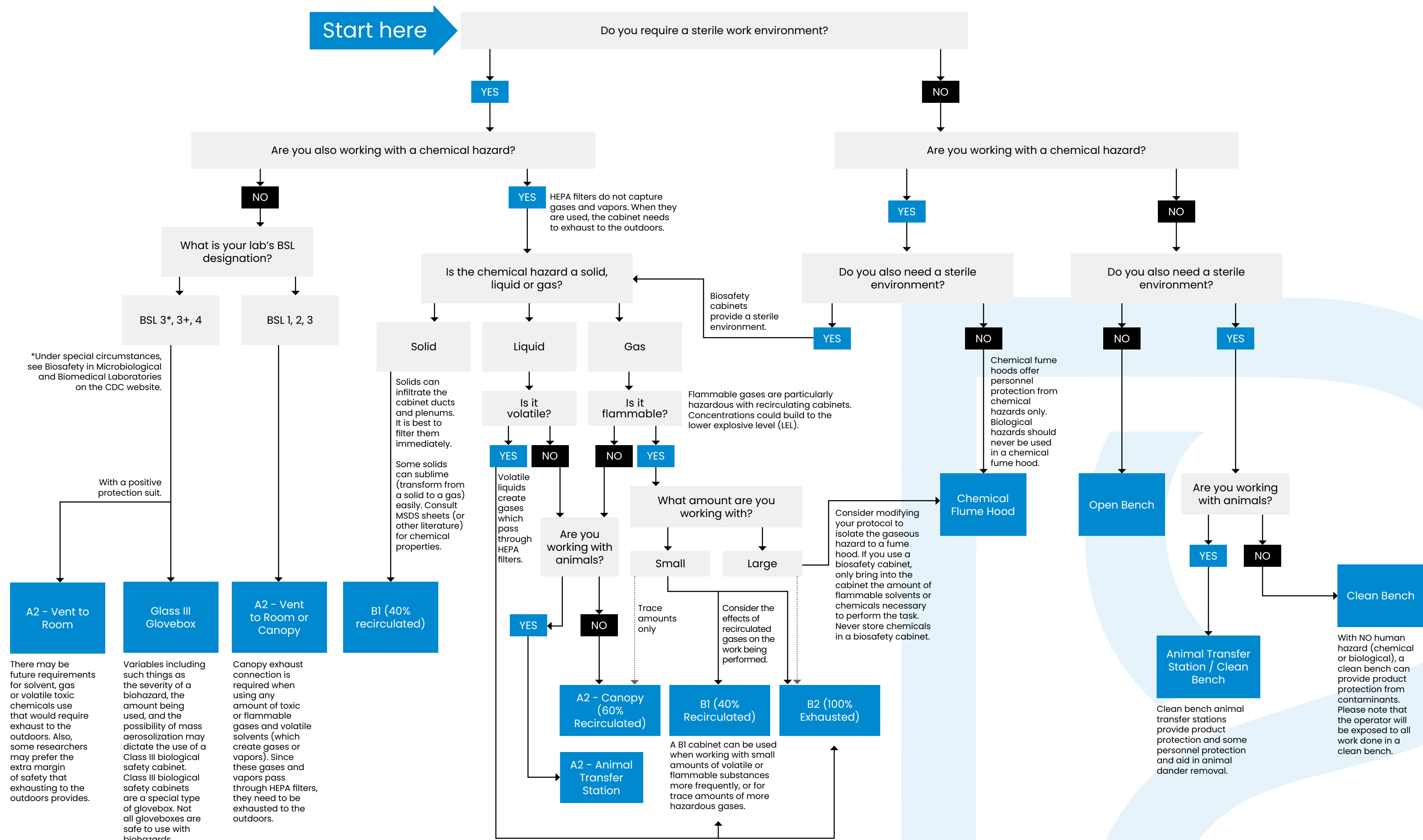


# Clean Air Containment Decision Map



FOR RESEARCH LABS



\*Under special circumstances, see Biosafety in Microbiological and Biomedical Laboratories on the CDC website.

With a positive protection suit.

There may be future requirements for solvent, gas or volatile toxic chemicals use that would require exhaust to the outdoors. Also, some researchers may prefer the extra margin of safety that exhausting to the outdoors provides.

Variables including such things as the severity of a biohazard, the amount being used, and the possibility of mass aerosolization may dictate the use of a Class III biological safety cabinet. Class III biological safety cabinets are a special type of glovebox. Not all gloveboxes are safe to use with biohazards.

Canopy exhaust connection is required when using any amount of toxic or flammable gases and volatile solvents (which create gases or vapors). Since these gases and vapors pass through HEPA filters, they need to be exhausted to the outdoors.

Solids can infiltrate the cabinet ducts and plenums. It is best to filter them immediately. Some solids can sublime (transform from a solid to a gas) easily. Consult MSDS sheets (or other literature) for chemical properties.

Volatile liquids create gases which pass through HEPA filters.

A B1 cabinet can be used when working with small amounts of volatile or flammable substances more frequently, or for trace amounts of more hazardous gases.

Flammable gases are particularly hazardous with recirculating cabinets. Concentrations could build to the lower explosive level (LEL).

Consider modifying your protocol to isolate the gaseous hazard to a fume hood. If you use a biosafety cabinet, only bring into the cabinet the amount of flammable solvents or chemicals necessary to perform the task. Never store chemicals in a biosafety cabinet.

Chemical fume hoods offer personnel protection from chemical hazards only. Biological hazards should never be used in a chemical fume hood.

Clean bench animal transfer stations provide product protection and some personnel protection and aid in animal dander removal.

With NO human hazard (chemical or biological), a clean bench can provide product protection from contaminants. Please note that the operator will be exposed to all work done in a clean bench.