



Biological Safety Cabinets

- Class I Biological Safety Cabinets protects the personnel and the environment but not the product or preparation. Unlike fume hoods, the HEPA filter in the Class I BSC protects the environment by filtering the air before it is exhausted.
- Class II BSCs protect the product, personnel and the environment. This table illustrates Class II BSC National Sanitation Foundation classifications and descriptions.

NSF Classification	Description
A1	70% air recirculated, 30% exhausted from a common plenum to the room 75 Feet per minute (FPM) intake May have biologically contaminated positive pressure plenum
A2	70% air recirculated, 30% exhausted from a common plenum to the room 100 FPM intake Biologically contaminated plenum under negative pressure or surrounded by negative pressure
B1	40% air recirculated, 60% exhausted from cabinet Exhaust air pulled through dedicated exhaust duct into facility exhaust 100 FPM intake All biologically contaminated plenums are negative to the room or surrounded by negative pressure plenums
B2	0% air recirculated, 100% exhausted from cabinet Exhaust air pulled through dedicated exhaust duct into facility exhaust 100 FPM intake All ducts and plenums are under negative pressure All contaminated ducts are under negative pressure or surrounded directly exhausted negative pressure ducts or plenums

This table illustrates BSC Class II types and protection from particulate, vapors and gases.

	Protection from:	
Class II Type	Particulate	Vapors and gases
A1 and A2	Personnel, work area, products and environment	If exhausted to room – none, not for use with vapors and gases
		If exhausted to facility – exhaust protects personnel
		If exhausted to treated facility – exhaust protects personnel, work area and environment
B1	Personnel, work area, products and environment	Offers more protection to personnel and work area the closer the vapor source is toward the rear of the work area
		Offers protection to the environment if exhausted to treated system
B2	Personnel, work area, products and environment	Offers protection to personnel and to environment if exhausted to treated system