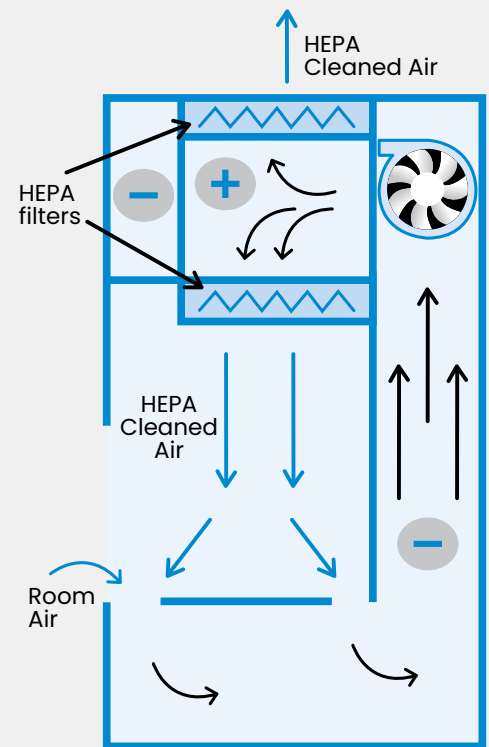
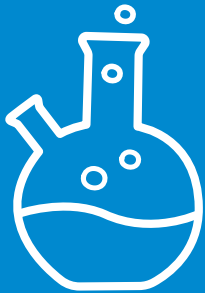


BSC Mythbusters: Volatile Chemicals and Class II Type A2 Biosafety Cabinets. How Much Is Safe?



BSC MYTHBUSTERS WITH
Kara Held Ph.D.
Baker Science Director



If you have any BSC myths you
want tested, send them to us!
We'll get some answers

BSCMYTHBUSTERS@BAKERCO.COM

www.bakerco.com



Volatile chemicals can compromise the protective environment of a BSC if not handled correctly. How much is safe?

Biosafety Cabinets are designed to protect personnel, product, and the environment by maintaining controlled airflow and filtering contaminants. Type A2 BSCs recirculate about 70% of air and can handle small amounts of non-hazardous chemicals only when properly exhausted. Using volatile chemicals inside a BSC can alter airflow dynamics and pose risks of contamination or personnel exposure if the concentration exceeds safe levels.

Not all chemicals are created equal and how they can be safely used in BSCs differs as well. Ensure the BSC is properly exhausted to an external system when handling chemicals to prevent recirculation of harmful vapors. Always perform a risk assessment for every experiment involving volatile chemicals!

Chemical Emission Limits for Safe Use in Type A2 BSCs

Chemical	Molecular Weight (g/mol)	Specific Gravity	LEL (%)
Ethanol	46.07	0.787	3.5
Isopropanol	60.1	0.786	2.0
Toluene	92.14	0.865	1.2
Diethyl Ether	74.12	0.714	1.7
Hexane	86.18	0.657	1.1
Chloroform	119.38	1.48	0.0002*
Acetone	58.1	0.79	2.1
Dichloromethane	84.93	1.32	13
BME	78.13	1.14	2.3



Watch the entire BSC Mythbusters presentation and download our Risk Assessment Handout



BSC Mythbusters presentation



Risk assessment handout

