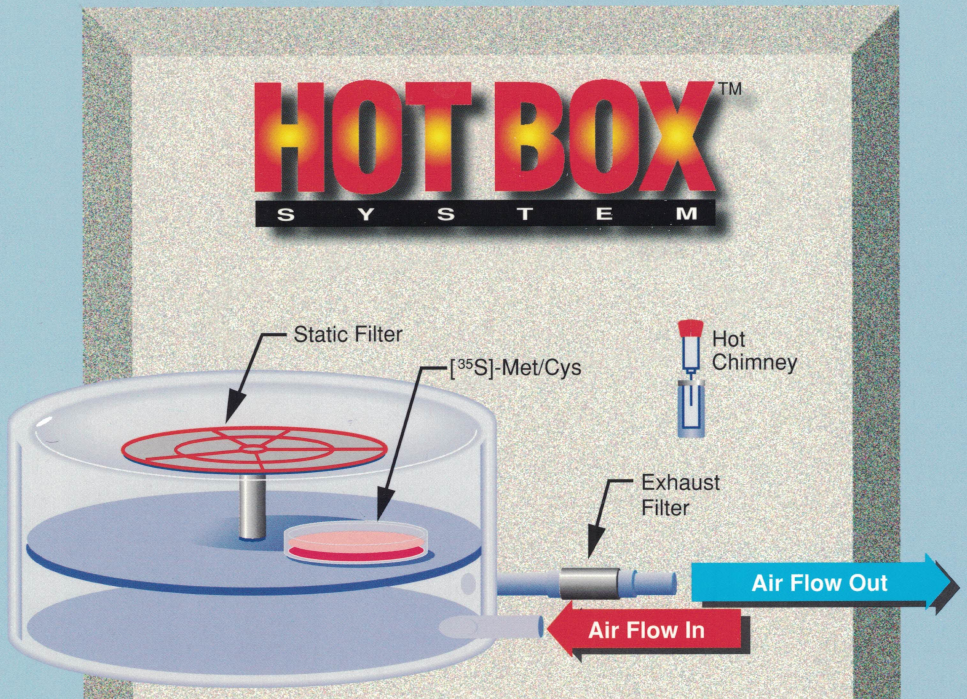
You Don't See It, But...

[^{35}S] Radioactive Gases Are Contaminating Your Lab Equipment and Personnel

The Solution is Simple and Inexpensive...

Conduct Experiments Safely in The Hot Box™ System

Achieve Total Containment of Radioactive Gases Generated During [^{35}S]-Cys/Met Protein Labeling Experiments



Efficiency of Hot Box System in Capturing [^{35}S]-Volatile

	[^{35}S]-Met/Cys Added			
SAMPLE	1 mCi		6 mCi	
Static Filter (Inside)	5.9x10^5 †	(87.1%)	1.0x10^7 †	(85.3%)
Exhaust Filter	8.7x10^4	(12.8%)	1.7x10^6	(14.5%)
Background	51		35	
Water in petri dish	550	(0.08%)	1.1x10^4	(0.09%)
Hot Box interior (wipe)	435	(0.06%)	1.3x10^4	(0.11%)
Total [^{35}S]-volatile contained	6.8x10^5		1.17x10^7	

Hot Chimney contained 1.0x10^5 CPM during thawing of sample.

†All values in CPM

Experiment Protocol

Several experiments were conducted to test the efficiency of the Hot Box System.* A Hot Chimney was used to remove over 100,000 CPM during the thawing of the reagent vial containing [^{35}S]-Met/Cys. A tissue culture dish containing 1 mCi or 6 mCi of [^{35}S]-Met/Cys in 5 ml of DMEM was placed in the Hot Box (Modular Incubator Chamber) with a Hot Static Filter and a petri dish containing 10 ml of sterile water for humidity.

One Exhaust Hot Filter was attached to the gas outlet and the system was purged with 10% CO_2. The Exhaust Hot Filter was removed and the sealed Hot Box was placed in a 37°C environment (incubator or warm room). After 18 hours, the Exhaust Hot Filter was reattached and the system was purged again.

The efficiency of the system to absorb radioactive gas generated during labeling experiments was checked with a second Exhaust Hot Filter to capture any breakthrough radioactive gases. 51 CPM and 500 CPM were found in the experiments respectively, *demonstrating the efficiency of the system to be 100% and 99.9%.*

*Patent pending

HOT BOX™ SYSTEM

Each Hot Box System contains:

- **Hot Box (Modular Incubator Chamber)**
  Used worldwide for two decades, this airtight chamber has been proven safe and reliable for *in vitro* fertilization, HIV isolation, hypoxia, organ culture and the culturing of a host of cell lines.[3] Each unit is a self-contained incubator enabling you to create the desired tissue culture environment (gas concentrations and humidity).

  The 31cm x 11cm round chamber will hold:

  - 84 35mm petri dishes
  - 27 60mm petri dishes
  - 12 100mm petri dishes
  - 9 96-well microculture plates
  - 18 25cm^2 tissue culture flasks

- **Static Hot Filter**
  Placed inside the chamber during experiments, the Static Hot Filter captures 85-90% of radioactive gases.

- **Exhaust Hot Filter**
  Any radioactive gases which have not had time to attach to the Static Hot Filter during the labeling experiment are trapped completely by the Exhaust Hot Filter during purging.

- **Flow Meter**
  Regulation of gas flow during purging is required to allow sufficient reaction time for irreversible binding of [^{35}S]-volatile with the specially formulated charcoal in the Exhaust Hot Filter. Use Single Flow Meter with pre-mixed gases or Dual Flow Meter for on-site mixing of gases.

- **Hot Chimney**
  Used while thawing [^{35}S]-Met/Cys, the Hot Chimney removes contaminating gases from manufacturer's reagent vial, reducing personnel exposure to radioactive gases during experimental set-up. It is designed with a Luer Lock for safe attachment of syringe needle.

All parts of the Hot Box System carry a one-year warranty against leaks, defects and breakage.

For safe labeling experiments, contact:

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