

# The Superior Alternative

A comparison of considerations in the cleanup of hazardous and nuclear materials.

	SafeVac	Commercially-Available "Nuclear" Vacuum Systems	Shop-Vac® Modified Systems
<b>Operator Safety</b>	Minimal exposure. Quickly sealed rigid, translucent container allows for fast, clean maintenance.	Significant exposure potential. High-dose exposure risk is high, because airborne contaminants are reintroduced to the atmosphere during routine maintenance,	Significant exposure potential. High-dose exposure risk is high, because airborne contaminants are reintroduced to the atmosphere during routine maintenance,
<b>Designed to ALARA Principals</b>	Yes.	No.	No.
<b>Contaminant Extraction</b>	Three Stages Stage 1: Cyclone removes virtually all contaminants without soiling replaceable filter media. Stage 2: HEPA prefilter protects motor and exhaust filter. Stage 3: ULPA exhaust filter provides maximum user and environmental safety (99.999% at 0.12µm).	<ul style="list-style-type: none"> <li>HEPA exhaust filter standard.</li> <li>Bag or roughing filters are easily soiled and clogged.</li> </ul>	<ul style="list-style-type: none"> <li>Bag or roughing filters are easily soiled and clogged.</li> <li>Exhaust filters optional and may include HEPA option.</li> </ul>
<b>Filter Change</b>	<ul style="list-style-type: none"> <li>Rarely.</li> <li>Vast majority of contaminants are removed by cyclonic separation, which keeps the pre- and exhaust filter clean.</li> <li>Filters are physically separated from the containment vessel, thus minimizes potential operator exposure during maintenance.</li> </ul>	Frequent and potentially dangerous.	Frequent and potentially dangerous.
<b>Secondary Waste Generation</b>	Minimal. <ul style="list-style-type: none"> <li>Rigid collection vessel is sealed and used as disposal container.</li> <li>Filters rarely need replacement.</li> </ul>	Significant. <ul style="list-style-type: none"> <li>Paper filter bag, HEPA filter, and polyliner are disposable.</li> <li>Entire system sometimes becomes part of secondary waste stream.</li> </ul>	Significant. <ul style="list-style-type: none"> <li>In addition to collected material, all used filters must be disposed of.</li> <li>Entire system often becomes part of secondary waste stream.</li> </ul>
<b>Nuclear Criticality</b>	Criticality safe geometry.	Not specifically designed for criticality safety. Special applications can be requested.	Potentially unsafe geometry.
<b>Dry or Wet Use</b>	Dry or wet.	Depends upon model.	Depends upon model.
<b>Collection Container</b>	<ul style="list-style-type: none"> <li>Standard translucent container is rigid allowing operator to monitor fill level and quickly seal.</li> <li>Optional shielded containers available.</li> </ul>	<ul style="list-style-type: none"> <li>Unable to determine fill level.</li> <li>May require lifting and dumping, thereby exposing hazardous material back into the work environment.</li> </ul>	<ul style="list-style-type: none"> <li>Unable to determine fill level.</li> <li>May require lifting and dumping, thereby exposing hazardous material back into the work environment.</li> </ul>
<b>Lifetime Cost Factors</b>	<ul style="list-style-type: none"> <li>Lower lifetime cost.</li> <li>Higher initial cost.</li> <li>Minimal maintenance</li> <li>Maximizes worker safety.</li> <li>Robust and dependable for a long service life.</li> </ul>	<ul style="list-style-type: none"> <li>Higher lifetime cost.</li> <li>Higher initial cost.</li> <li>Frequent filter replacement costs.</li> <li>High worker exposure potential.</li> <li>Entire system often replaced.</li> </ul>	<ul style="list-style-type: none"> <li>Higher lifetime cost.</li> <li>Lower initial cost.</li> <li>Frequent filter replacement costs.</li> <li>High worker exposure potential.</li> <li>Entire system often replaced.</li> </ul>
<b>Efficiency Rating</b>	99.999% at 0.12µm.	99.97% at 0.3µm.	Depends on model, but can be as great as 99.97% at 0.3µm.
<b>Power Requirements</b>	120 VAC, Air operated available.	120 VAC or Air Operated models.	120 VAC.
<b>Manufacturer / Distributor</b>	Designed, Engineered, and Manufactured in the USA.	Depends on model.	Depends on model.
<b>Certifications</b>	<ul style="list-style-type: none"> <li>Nuclear Suppliers Association (NSA) recognized.</li> <li>DOP certified HEPA filter, ASME AG-1 FC-3000 Specifications (Nuclear Grade) Tested per IES-RP-CC001.3 For Type B Filter..</li> <li>Laser-certified ULPA filter as per IES-RP-CC00.7.</li> </ul>	<ul style="list-style-type: none"> <li>Some models ISO 9001 certified.</li> <li>Some meet ASME AG-1 FC-3000 Specifications (Nuclear Grade) Tested per IES-RP-CC001.3 For Type B Filter.</li> </ul>	Depends on model.

For more information, contact  
**Inventure Laboratories, Inc.**  
P.O. Box 30457  
Knoxville, TN 37930-0457  
Tel: 865-531-8258  
Fax: 865-531-9273  
[www.safevac.net](http://www.safevac.net)

