GLOVE BOXES

Glove boxes are a type of local exhaust ventilation system (enclosing hood - with hand portals) but addressed separately because of the unique types and configurations found. A glove box is a permanent encapsulation or encasing of the source (which are not opened during the given activity) with a well-designed local exhaust ventilation system. The design of both the enclosure and the ventilation system is such that the influence of worker behavior is minimal (e.g. the enclosure cannot be opened before the substance is properly vented).

RMM SPECIFICATION

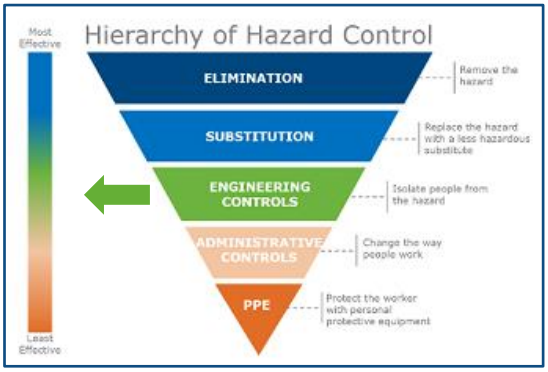
Low/Medium/High specification

Effectiveness	Implementation	Cost	Target group	Lifetime
Mean: 99,9% 99% – 100%	☐ Ready to use ☑ Development required ☐ Without any maintenance ☑ With regular maintenance	Low Medium High € € € € € € € € €	☑ Workers ☐ Consumer ☐ Environment	*Years of use*

ADVICES TO ENSURE THE MAXIMUM EFFECTIVENESS

Important elements that determine the effectiveness of glove boxes are:

1. Glove boxes should be maintained at negative pressure so that the leaks are contained into the box and are not released
2. A mock-up should be used to assess ergonomic design prior to purchase. Indeed, these devices could be difficult to use due to restricted movement and visibility
3. Tests should be conduct to check if the box is operating as designed
4. Visual information of the pressure level and flow should be installed
5. Connection and disconnection of canister should be studied to avoid any release (cleaning and control of contact surfaces can be carried out). Depending on the type of material handled, the connection and disconnection of canister should be performed with an additional RMM
6. Maintenance (change of gloves for example) and cleaning steps should be performed with an additional RMM
7. Glove plugs available in the direct vicinity of the equipment



To know more

- Current Strategies for Engineering Controls in Nanomaterial Production and Downstream Handling Processes ★★★★★
- Workplace Design Solutions: Protecting Workers during the Handling of Nanomaterials ★★★★½
- Compilation of NM exposure mitigation guidelines relating to laboratories ★★★★½

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