

Adapters and Sample receptacles

There are two main types of sample receptacles in the Chemical Industry:

1. Bottles & Other Open-top containers (in blue below)
2. Closed containers such as pressure cylinders and piston-injectors (in green below)

The main differences between each type:

1. In principle, bottles & other open-top containers can't hold any pressure. If pressure can't be released and must therefore be contained, a closed container is thus required.
2. Exposure to toxic fumes and/or vapor cannot be avoided with bottles & other open-top containers. To guarantee absolutely no exposure, a closed container is therefore required
3. The exception to # 2 above is our REVO-BOX: the sample is collected in a bottle and the cap is screwed back onto it in a totally closed environment. This eliminates any exposure for the operator or the environment.

Adapter	Description	Exposure level
Bottle support	The bottle sits on a spring-loaded support. The operator can easily lower the support to remove the bottle from under the valve.	The operator is exposed to toxic fumes / vapors of the sample which are released from the bottle.
Thread adapter	The bottle is screwed under the valve. To remove the bottle, the operator unscrews the bottle and then screws the cap on it.	The operator is exposed to toxic fumes / vapors of the sample as soon as the bottle is unscrewed from the valve and until the cap is screwed back on it.
Needle adapter	The needle is used to burst the septum of the bottle.	Due to the nature of the septum, the operator's exposure to toxic fumes / vapors of the sample is limited. This is a great solution for clean chemicals but is not recommended for slurries, highly viscous products or application than can plug.
Safety cabinet	The safety cabinet adds an extra layer of safety to either a bottle support, a thread adapter or a needle adapter.	The safety cabinet reduces exposure, but the operator is exposed when the door is opened to get the bottle. The cabinet can be vented during and after sampling.
Revo-box	Same as a safety cabinet, but the cap is screwed back on the bottle within the safety cabinet. Watch the demo at www.biar.us/revo	The sample is collected in a bottle. The operator is NOT exposed to toxic fumes / vapors.
Piston-injector	Syringe-type cylinder (no-flow-through) using a piston to push/pull liquid or gas	The sample is collected in proprietary cylinder. The operator is NOT exposed to toxic fumes / vapors. The sample can then be transferred into a bottle or other equipment at the lab, in a controlled environment (i.e. under the hood).
Container	Proprietary cylinder (no-flow-through)	The sample is collected in proprietary cylinder. The operator is NOT exposed to toxic fumes / vapors. The sample can then be transferred into a bottle or other equipment at the lab, in a controlled environment (i.e. under the hood).