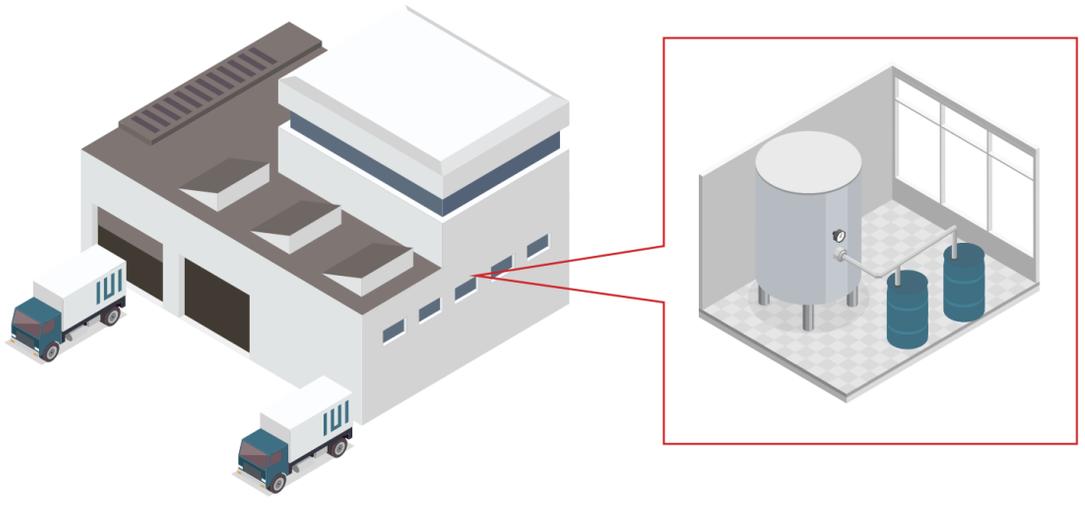


Becoming a Strategic Chemical Supplier: The Fight for Semiconductor Material Manufacturing Purity

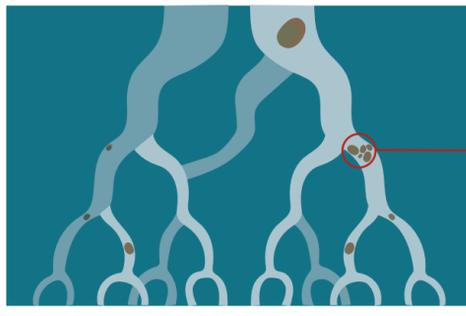
Chemical manufacturers are critical determinants of quality and efficiency in the semiconductor fabrication process. Fabs are increasingly looking for cleaner, more contaminant-free chemicals. They are also looking for processes that ensure cleanliness throughout the semiconductor materials supply chain. Their challenge is to meet new contamination targets while maintaining their operating models.



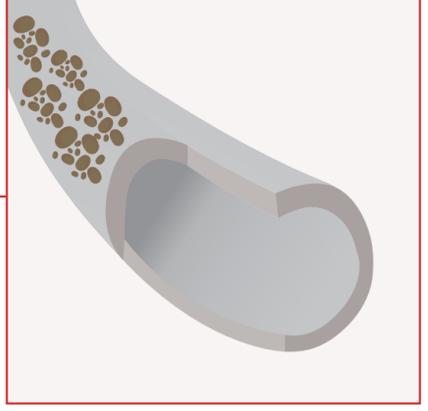
FILTRATION VERSUS PURIFICATION

Clean chemicals result from stricter adherence to contamination control processes and technologies, meeting the specifications determined by the fab's intended usage and end product. There are two primary methods of removing contaminants:

1 Size Exclusion



2 Adsorption

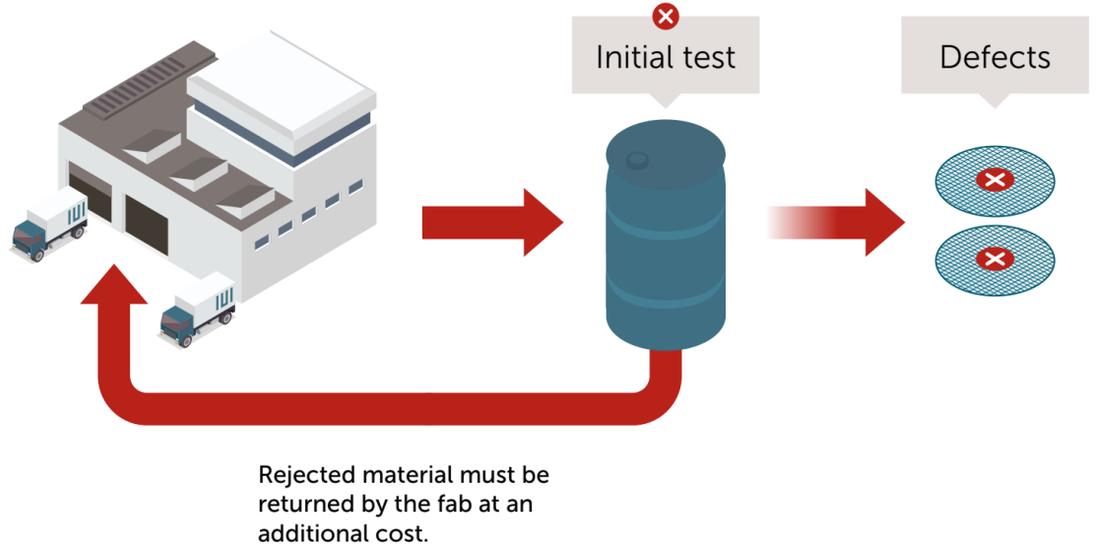


UNDERSTANDING DOWNSTREAM COSTS OF CONTAMINATION

For a chemical supplier, there may be an immediate expense from contamination during production. The risk to the fab is compounded if the contaminated materials are put into use as well.

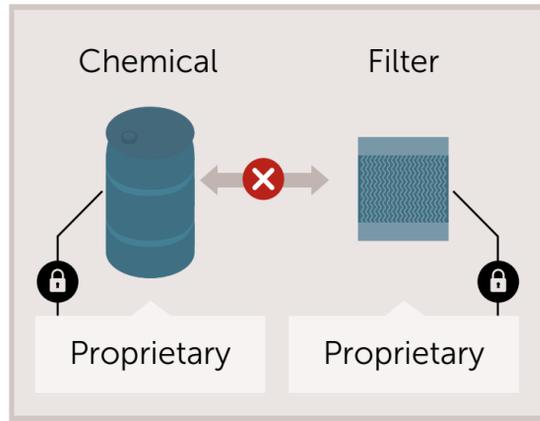
If the fab rejects a batch after initial testing, it can cause expedited rework to meet delivery deadlines.

Undetected contamination can cause chip failures or shutdowns in the fab, with shutdowns in the fab with escalated rework and waste disposal costs.



COMPATIBILITY OF MATERIALS

Specialized membrane and media modifications designed to promote adsorption must be compatible with each chemical and blend to avoid adverse reactions with filters, purifiers, and other materials in downstream use at the fab.

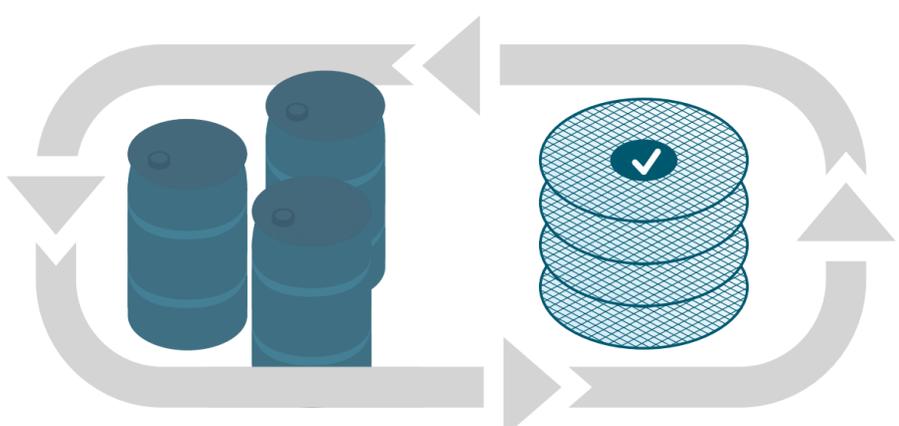


Fabs, equipment makers, and chemical suppliers must collaborate openly and share information on usage to prevent these types of interactions.



STRATEGIC SUPPLIER MINDSET

The opportunity for chemical manufacturers is to align their processes and standards of quality to the current and future needs of their customers. Aligned processes allow for responsive reactions to changing fab conditions and requirements, and often yield more efficient operation.



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