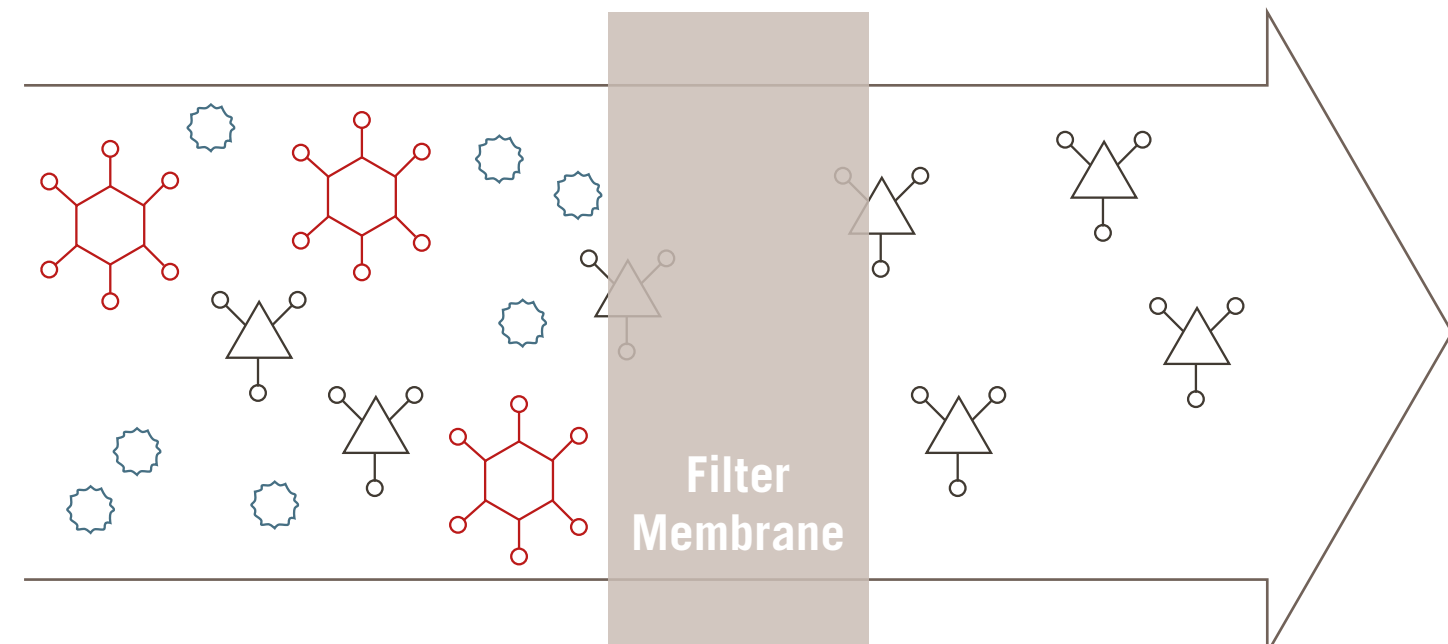


Targeted Removal Assures Purity in Advanced Materials

A complex set of advanced materials and environmental controls interact in the process of semiconductor manufacturing, and each must meet a purity standard to ensure wafer yield and device reliability. The process of analyzing these interactions and removing specific contaminants while not disturbing the material composition is called targeted removal.



Entegris takes a holistic approach that ensures accuracy in each process and across the semiconductor supply chain to save you time and money. Here's how it works.

WHAT IS TARGETED REMOVAL?

Nearly everything that goes into a fab – liquids, gases, and ambient air – has the potential to bring contaminants that will impact performance. Each process area has a unique sensitivity to each contaminant as well. Removing targeted contaminants while not disrupting the composition is a delicate process. A targeted removal model identifies each threat, or threats, while maintaining the working balance of a material, including these examples:

Acids, Bases, and Solvents

Removing intrinsic and extrinsic particles, metals, and organics from process materials during use and recovery

Intrinsic

Extrinsic

Photochemicals

Removing particles, metals, gels, and organics

Slurry

Removing large and ultrafine abrasive particles, while preserving working abrasives and additives

DI Water

Removing particles and ions that act as growth agents for biologic contaminants

Process Gases

Removing particles, moisture, and incompatible species

Ambient Air

Removing acids, bases, and organic contaminants

BUILDING A TARGETED REMOVAL MODEL

The process of building a model to perform and measure purity requires collaboration among all members of the semiconductor supply chain.



- 1** Identify the target contaminants and sensitivity level in each process to establish a fab profile
- 2** Identify composition disruption risks to preserve material performance
- 3** Analyze all materials that interact in this given process and influences across the fab
- 4** Recommend filter and/or purifiers in each process area based on historical knowledge
- 5** Test and validate the efficacy of this solution

ASSURING REPEATABLE SUCCESS

Entegris provides the broad material purity expertise and systematic approach required to build an effective targeted removal process across the fab ecosystem.

www.entegris.com/targeted-removal