



# GUIDE FOR QUALIFICATION AND MONITORING OF CRITICAL MATERIALS USED IN PARTS CLEANING

The Semiconductor Industry is always challenged to produce high yielding products in the nanoscale regime. Yield limiters are a cumulative effect of critical material contamination that comes in contact with tool components. Clean room consumables, air, water, gases and cleaning chemicals can all be insidious sources of contamination. The only way to control the sources of contamination is to evaluate, qualify and institute periodic monitoring. By not having qualified critical materials that meet today's stringent requirements, part cleanliness is jeopardized. Our recommended analysis and testing frequency portfolio below is a guide to achieving improved consistency in delivering clean parts.

## CRITICAL MATERIAL CONTAMINATION CONTROL



## RECOMMENDED ANALYSIS AND TESTING FREQUENCY FOR CRITICAL MATERIALS AND PROCESSES

CRITICAL MATERIALS	FULL QUALIFICATION AT VENDOR/BRAND/MATERIAL CHANGE	QUARTERLY MONITORING	MONTHLY MONITORING	SYSTEM CHANGE AND PM
<b>PACKAGING MATERIAL/CLEANROOM CONSUMABLES: CR BAGS, WIPES, GLOVES</b>				
Trace Metals	■	■		
Particles	■	■		
Anions and Cations	■	■		
Volatile Organic	■	■		
<b>ENVIRONMENT: CLEANROOM AIR AND OVEN</b>				
Trace Metals	■	■		
Anions	■	■		
Volatile Organics	■	■		
<b>COMPRESSED INERT GAS LINE: CDA &amp; NITROGEN</b>				
Trace Metals	■	■		■
Anions	■	■		■
Volatile Organics	■	■		■
<b>CLEANING CHEMICALS</b>				
Trace Metals	■		■	■
Assay	■		■	■
<b>WATER TESTING: UPW, RINSE &amp; BATH WATER</b>				
Trace Metals	■		■	■
Particle counts	■		■	■
Bacteria	■		■	■
Dissolved silica	■		■	■
Anions and Cations	■		■	■
TOC	■		■	■
<b>BEAD BLAST MEDIA</b>				
Trace metals	■		■	■

