

SKC Sampling Solutions

For Semiconductor Wafer Fabrication Unit (Fab) Workplaces

Recognition

Semiconductors are formed on wafers in wafer fabrication units called "fabs." In the processes required to build the semiconductors and clean the fab, workers may be exposed to several hazardous chemical agents. These agents include acids, bases, metal particulates, organic compounds, and molecular dopants based on phosphorous, arsenic, and boron compounds.

SKC offers active and passive sampling solutions for sampling these compounds. SKC active samplers require an air sample pump to collect hazardous gases, vapors, and particulates in air; passive samplers collect hazardous vapors by diffusion without the use of an air sample pump. SKC also offers monitors for measuring other target compounds such as ammonia.

See the SKC equipment recommended for sampling compounds in fab workplaces.

Evaluation with SKC Sampling Solutions

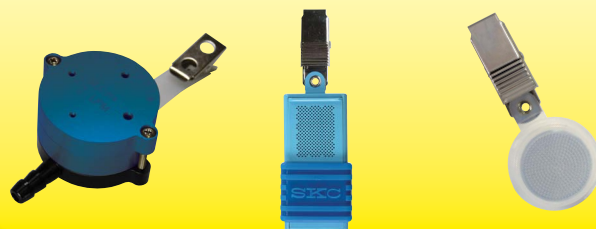
For over 50 years, SKC has led the research, design, and manufacture of quality sampling equipment and media to aid health and safety professionals in the evaluation of occupational and environmental hazards.

Choose from the many SKC sampling solutions for fab workplaces, ranging from air sample pumps, active and passive samplers, sorbent tubes, and filter cassettes to innovative portable instruments following agency methods and established protocols.

Air Sample Pumps



Samplers



Sampling Media



Portable Instruments



See reverse side for specific method and sampling equipment/media information.



Semiconductor Wafer Fabrication Unit (Fab) Workplaces

Sample Collection

Active Air Sampling Solutions

Target Compound	Select Methods*	SKC Sample Collection Media and Cat. No.	SKC Sample Pump and Cat. No.	Notes
Amines, aliphatic and aromatic	NIOSH 2010 NIOSH 2002	Sorbent tube 226-10	Pocket Pump TOUCH 220-1000TC	
Ammonia	NIOSH 6015 NIOSH 6016	Sorbent tube 226-10-06	AirChek® TOUCH 220-5000TC	
	OSHA ID 188	Sorbent tube 226-29		
Chromic acid	NIOSH 7600	Preloaded PVC filter cassette 225-803	AirChek TOUCH 220-5000TC	
	OSHA ID 215 (V.2)	Preloaded PVC filter cassette 225-802		
Diethylamine	OSHA 41	Sorbent tube 226-96	Pocket Pump TOUCH 220-1000TC	
Dimethylacetamide	NIOSH 2004	Sorbent tube 226-10	Pocket Pump TOUCH 220-1000TC	
Hexachlorethane	OSHA 07	Sorbent tube 226-01	Pocket Pump TOUCH 220-1000TC	
Hydrochloric acid	OSHA ID 174SG	Sorbent tube 226-10-03	AirChek TOUCH 220-5000TC	
Hydrofluoric acid	ASTM D4765 NIOSH 7902 OSHA ID 110	Preloaded coated filter cassette 225-9001	AirChek TOUCH 220-5000TC	
Hydrogen chloride	NIOSH 7907	Preloaded coated filter cassette 225-9032	AirChek TOUCH 220-5000TC	One uncoated prefilter and one coated filter
Hydrogen fluoride, hydrofluoric acid	NIOSH 7906	Preloaded coated filter cassette 225-9031		
Metal particulates	NIOSH 7300 OSHA ID 121 OSHA ID 125G	Preloaded MCE filter cassette 225-3-01	AirChek TOUCH 220-5000TC	
	NIOSH 7306	Preloaded Solu-CAP cassette insert 225-8517		
Methanol	OSHA 91	Sorbent tube 226-82	Pocket Pump TOUCH 220-1000TC	Two tubes in series
Molecular dopants	NIOSH 6001 (arsine)	Sorbent tube 226-01	Pocket Pump TOUCH 220-1000TC	
	NIOSH 6002 (phosphine)	Sorbent tube 226-165A		
	OSHA 1003 (phosphine)	Preloaded coated filter cassette 225-9018	AirChek TOUCH 220-5000TC	
Nitric acid	NIOSH 7907	Preloaded coated filter cassette 225-9032	AirChek TOUCH 220-5000TC	One uncoated prefilter and one coated filter
	OSHA ID 165SG	Sorbent tube 226-10-03	AirChek TOUCH 220-5000TC	



Semiconductor Wafer Fabrication Unit (Fab) Workplaces

Sample Collection

Active Air Sampling Solutions (Cont.)

Target Compound	Select Methods*	SKC Sample Collection Media and Cat. No.	SKC Sample Pump and Cat. No.	Notes
Organic compounds	EPA TO-17 and IP-1B	Thermal desorption tube 226-300 Series, constant pressure controller 224-26CPC-10, and dual low flow tube holder 224-26-02	Pocket Pump TOUCH 220-1000TC	Side-by-side dual flows
	OSHA 91 (methanol)	Sorbent tube 226-82	Pocket Pump TOUCH 220-1000TC	Two tubes in series
	OSHA 7 (xylene, hexachlorethane)	Sorbent tube 226-01	Pocket Pump TOUCH 220-1000TC	
Phosphoric acid	OSHA ID 111	Preloaded MCE filter cassette 225-3-01	AirChek TOUCH 220-5000TC	
	OSHA ID 165SG	Sorbent tube 226-10-03		
	NIOSH 7908	Preloaded filter cassette 225-9033		
Sulfuric acid	OSHA 113	Preloaded Parallel Particle Impactor 225-3861	AirChek TOUCH 220-5000TC	
		Preloaded MCE filter cassette 225-3-01		
	OSHA ID 215	Preloaded PVC filter cassette 225-802		
Xylene	OSHA 07 OSHA 1002	Sorbent tube 226-01	Pocket Pump TOUCH 220-1000TC	

Passive Air Sampling Solutions

Target Compound	Select Methods*/ SKC Validation	SKC Sample Collection Media and Cat. No.	Notes
Organic vapors	EPA TO-17/ Research Report 1812	ULTRA® 690 Series, choice of four sorbents	Thermal desorption and GC analysis
	OSHA 07, OSHA 91/ Research Reports 1812, 1895	VOC Chek® 575 Series	Solvent extraction and GC analysis

* Other methods may apply. SKC recommends those listed.

Monitoring Solutions

Target Compound	Instrument and SKC Cat. No.	Notes
Ammonia	Pac 7000, 805-18979	

