

**TC2.3 Scope:** TC 2.3 is concerned with the nature of trace gaseous contaminants; the measurement of their properties; their effects on living things and materials; the means of removing unwanted gaseous contaminants from gases; and the effectiveness, energy usage, and economy of such purification equipment.

For both ordinary and extraordinary situations (including hostile acts), TC 2.3 is concerned with the effects of gaseous contaminants on the quality of air supplied to and exhausted from enclosed spaces and with the sources of gaseous contaminant pollution within such spaces.

The TC scope covers all aspects of odor technology, including odors, which are produced by volatile particulate contaminants, but excludes purely physiological or psychological aspects of gaseous contaminants such as toxicology and odor perception.

### TC2.3 Research Roadmap

Rank	Topic/Title	Related Past or Ongoing ASHRAE projects	Research Gap Identifications	ASHRAE Strategic Plan Fit	Champion(s)	Status
1	1720-WS: Validation of gas-phase air-cleaner performance test method (Standard 145.2) by laboratory testing of commercially available filtration devices.	1. Std 145.2	<i>Removal of gaseous contaminants:</i> Validation of Std 145.2	Adapt Goal: Work to translate science and technology into practical tools and resources that drive effective building design, operations and management	Gemma Kerr	Work Statement WS1720 submitted to RAC
2	1579-WS: Testing and Evaluation of Ozone Filters for Improving IAQ		<i>Removal of gaseous contaminants</i>		Matt Middlebrooks	Work statement needs to be revised and completed

3	1755 WS: Impact of gaseous contamination and high humidity on the reliable operation of information technology equipment in data centers		<i>Nature of gaseous pollutants:</i> Determination of critical humidity range in data centers		Chris Muller	TC9.9 Co-sponsoring. Should go out for bid in Fall 2015.
4	Determination of the Exhaust air Contaminant Transfer Ratios (ECTR) for selected typical exhaust airborne contaminants while using commercially available air-to-air energy recovery ventilation (ERV) devices or systems in HVAC systems applications		<i>Removal of gaseous contaminants:</i>		Nick Agopian	RTAR submitted by TC5.5 with TC2.3 co-sponsor
	Demand-based air-cleaner operation to save energy		<i>Removal of gaseous contaminants:</i>		Brian Krafthefer	RTAR in progress
	Using specially treated textiles to reduce odors		<i>Removal of gaseous contaminants:</i>		Arsen Melikov	RTAR needs to be written – not started
	Bipolar Ionization (process uses needlepoint technology to produce both positive and negative ions) performance test method for VOC removal and testing a variety of commercially-available ionization devices	Std 145.2	<i>Removal of gaseous contaminants:</i>		Scott Sherwood	RTAR needs to be written – in progress
	IAQP field studies	ASHRAE 62.1	<i>Removal of gaseous contaminants:</i>		Marwa Zaatari	RTAR needs to be written – not started

	The effects of filtration on health	EHC Position Paper	<i>Removal of gaseous contaminants; &amp; Effect on living things:</i>		Dean Tompkins	RTAR needs to be written – not started
	SVOCs		<i>Nature of gaseous pollutants: How SVOC emissions change with temperature</i>		Jensen Zhang	RTAR proposed in Atlanta—needs to be written
	Bio-effluent emission rates to assist IAQP calculations		<i>Nature of gaseous pollutants:</i>		Chang-Seo Lee	RTAR needs to be written