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## Industrial Hygiene and Air Monitoring Standards

ISO 9001: 2015 Registered • ISO/IEC 17025:2005 Accredited • ISO 17034:2016 Accredited

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# Industrial Hygiene and Air Monitoring Standards

- Address the needs of quality control or method development
- Used with industrial hygiene methods including, NIOSH Methods 7300, 7500 and 1000 Series, OSHA Method 91, ASTM Standard D7035, ISO Standard 15202-1 and 15202-2, and CEN (EN) Standard 13890
- Products included in our ISO 9001:2015, ISO/IEC 17025:2005 and ISO 17034:2015 scope of accreditation

## Absorbent Tubes & Diffusive Samplers

Organic solvent analytes are gravimetrically applied to tubes or passive sampler badges containing charcoal sorbents. Following manufacture, products are desorbed and tested using OSHA/NIOSH methods established for applicable components. Second source Certified Reference Materials are used to validate concentration.

**To order a standard, please provide the following information:**

- Analytes of interest
- Analyte mass per tube or badge
- If ordering a diffusive sampler, indicate brand of package: 3M, Assay Technology or SKC
- Quantity of spiked tubes/badges and blanks

Contact us at 843.767.7900 or toll free at 866.767.4771 or via email to [info@highpuritystandards.com](mailto:info@highpuritystandards.com). You can also visit our website at [highpuritystandards.com](http://highpuritystandards.com).

## Silica for XRD/IR Analysis

### TMFM-Crystalline Silica

We offer standards of alpha-Quartz or Cristobalite on PVC filters in concentrations ranging from 10 µg/filter to 500 µg/filter for the alpha-Quartz and 5 µg/filter to 250 µg/filter for the Cristobalite.

Available as custom products which may include background materials.

Please contact Customer Service for details on concentrations and pricing.

## Toxic Air Metals on Quartz Filter

Metals currently listed as Hazardous Air Pollutants (HAP) include: antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, mercury, nickel, and selenium. We have designed products that comply with EPA methods for Air Monitoring. The more popular filter media for these products include Quartz or PTFE-coated filters. Dissolved metals are applied to the selected filter media and tested against appropriate Certified Reference Materials. These products are provided with an ISO 17034:2016 Certificate of Analysis.

To request varying components/concentrations and your choice of filter type (Quartz, MCE, PVC, PTFE-coated, or Acrylic), contact us today to discuss your special mix needs.

## Hexavalent Chromium on MCE or PVC Filters

This is a custom product due to the short stability period. Validation via Ion Chromatography or IC-ICP-MS is available. Please send custom specifications to [info@highpuritystandards.com](mailto:info@highpuritystandards.com).

# Industrial Hygiene and Ambient Air Analysis

The following trace metals on mixed cellulose ester are designed to meet QC requirements for Method 7300. Additional blanks are available.

Description	Part #
Trace metals on mixed cellulose ester; 10 spiked filters and 5 blanks	QC-TMFM-A through QC-TMFM-G

Components	QC-TMFM-A	QC-TMFM-B	QC-TMFM-C	QC-TMFM-D	QC-TMFM-E	QC-TMFM-F	QC-TMFM-G
	µg/filter	µg/filter	µg/filter	µg/filter	µg/filter	µg/filter	µg/filter
Aluminum	—	—	—	50	100	—	—
Arsenic	10	50	100	10	20	10	50
Barium	2.5	10	25	2.5	5	2.5	10
Beryllium	1	10	25	0.1	0.2	1	10
Cadmium	1	10	25	1	2	1	10
Chromium	2.5	10	25	2.5	5	2.5	10
Cobalt	2.5	10	25	2.5	5	2.5	10
Copper	2.5	25	50	2.5	5	2.5	25
Iron	2.5	25	50	2.5	5	2.5	25
Lead	2.5	25	50	2.5	5	2.5	25
Manganese	1	10	25	1	5	1	10
Nickel	2.5	10	25	2.5	5	2.5	10
Silver	1	5	10	1	2	1	5
Thallium	2.5	10	25	2.5	5	2.5	10
Uranium	—	—	—	—	—	2.5	5
Vanadium	2.5	10	25	2.5	5	2.5	10
Zinc	2.5	50	100	2.5	5	2.5	50

## Beryllium Oxide

Beryllium Oxide is a toxic particulate material present in workplace samples that is known to be resistant to dissolution. These standards are available for method development or quality control checks. The source of the Beryllium Oxide applied to the filter is NIST SRM 1877 high-fired BeO powder. Blanks are supplied separately; contact us for information.

Beryllium Oxide Particulates on Filter		
Description	µg/filter	Part #
0.05 µg/filter of BeO as Be (2 filters)	0.05	TMFM-CBEO-0.05
0.1 µg/filter of BeO as Be (2 filters)	0.1	TMFM-CBEO-0.1
0.2 µg/filter of BeO as Be (2 filters)	0.2	TMFM-CBEO-0.2
0.5 µg/filter of BeO as Be (2 filters)	0.5	TMFM-CBEO-0.5
1 µg/filter of BeO as Be (2 filters)	1	TMFM-CBEO-1.0
2 µg/filter of BeO as Be (2 filters)	2	TMFM-CBEO-2.0
5 µg/filter of BeO as Be (2 filters)	5	TMFM-CBEO-5.0
10 µg/filter of BeO as Be (2 filters)	10	TMFM-CBEO-10.0
25 µg/filter of BeO as Be (2 filters)	25	TMFM-CBEO-25.0

## Respirable Silica on PVC Media Filter

We now offer standards of alpha-Quartz (from NIST SRM 1878b) or Cristobalite (from NIST SRM 1879b) on PVC filters. These forms of silica come in concentration ranges of 10 µg/filter to 500 µg/filter for the alpha-Quartz and 5 µg/filter to 250 µg/filter for the Cristobalite. This is a NIST-traceable product that comes with an ISO 17034 Certificate of Analysis. Contact us for details on concentrations and pricing.

Respirable Silica on PVC Media Filter	
Description	Part #
TMFM Crystalline Silica	TMFM-Crystalline Silica

## Cleaned Filters

To address the need for clean blank PVC filters, we offer two methods of cleaning PVC filters to remove specific contaminants.

1. A patented process to remove chromium or vanadium<sup>1</sup>
2. An in-house method to remove silicon

A Certificate of Analysis with the concentration per filter of the removed analyte is included with the product. Please contact us to submit an order for Clean Filters. Bulk pricing is available.

Cleaned Filters	
Description	Part #
Cleaned 37 mm PVC filters in quantities of 25	PVC37MMPC

<sup>1</sup> Licensed from the United States of America under U.S. Patent No. 8,415,452, Rubenstein, M. "Hexavalent chromium and total chromium removal from polyvinylchloride (PVC) polymers".



# Custom Standard Quote Form

Contact Person: \_\_\_\_\_

Company Name: \_\_\_\_\_ Customer Number: \_\_\_\_\_

Email: \_\_\_\_\_

Telephone Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_

Address Line 1: \_\_\_\_\_ Address Line 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_

Zip/Postal Code: \_\_\_\_\_ Country: \_\_\_\_\_

Mix Name: \_\_\_\_\_

## Standards

Custom Industrial Hygiene Standards come in sets that include blanks. This portion of the form will provide specifications as to the number of spiked standards and the number and type of blanks.

Filter Media (for filters): \_\_\_\_\_

Diameter (for filters): \_\_\_\_\_ Pore Size (optional for filters): \_\_\_\_\_

Diffusive Badge Type (for diffusive samplers): \_\_\_\_\_

Sorbent Tube Type (for organic solvents on sorbent tubes): \_\_\_\_\_

Number of Standards per set:

Spiked: \_\_\_\_\_ Blank: \_\_\_\_\_

Type of Blank: \_\_\_\_\_

Total Number of Sets: \_\_\_\_\_

## Elements/Components

You may add as many components to your custom blend as you wish. Metals are assumed to be dissolved, unless otherwise stated (ex. BeO solid, crystalline silica solid, etc). If requesting a crystalline silica standard, indicate the form (ex. alpha quartz, cristobalite, amorphous, etc). Include the mass units of each component concentration (ex.  $\mu\text{g}$ ). Please provide a separate document for multiple components and attach with this quote form.

Element/Component: \_\_\_\_\_ CAS Number (for organic component) \_\_\_\_\_

Concentration (mass per media): \_\_\_\_\_ Concentration Unit: \_\_\_\_\_

Sample Preparation/Analytical Method: \_\_\_\_\_

## Special Instructions

The custom standards will be prepared within the confines of a quality system that is ISO 9001:2015 registered and ISO/IEC 17025:2005 and ISO 17034:2016 accredited. Please indicate if the ISO 17034:2016 symbol is required for the Certificate of Analysis. Also describe any requirements for specific matrix or non-certified background material that will need to be applied. Please provide all special instructions on a separate piece of paper and attach with this quote form.

