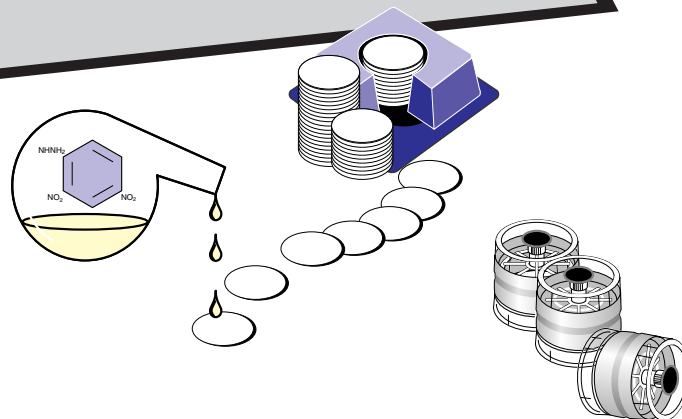


# Coated Filters in Preloaded Cassettes

- **Economical**
- **No assembly required**
  - Preloaded into cassettes
  - Sealed with end plugs and shrink bands
- **Ready to use**
- **Time-saving**
- **Convenient alternative to impinger wet chemistry methods**
- **No cumbersome collection liquids or glass**
- **Easy personal sampling**
- **Meet agency method specifications**
- **Small package size for short shelf-life product**



## Development and Application

Coated filters were developed to take the place of glass impinger methods that used solutions containing derivatization reagent. Coated filters are treated with a method-specified derivatization reagent and loaded into filter cassettes. Using coated filters makes sampling reactive compounds faster, easier, and safer as there are no liquids to evaporate or spill or glass to break. Because filter cassettes are small and lightweight, they allow convenient personal sampling. Simply unplug the lightweight cassette, insert it into an SKC Filter Cassette Holder, and clip to a worker's collar. Use coated filters to collect compounds that exist as an aerosol or mist or for some higher boiling vapors. Flow rates typically are greater than 1 L/min and sampling times range from 15 minutes to one hour. Most coated filter samples are extracted in solvents and analyzed at a lab by gas or liquid chromatography. SKC offers treated and coated filters to meet a variety of OSHA, NIOSH, ASTM, and international agency methods (*see Coated Filter Selection Guide*).

### SKC Limited Warranty and Return Policy

SKC products are subject to the SKC Limited Warranty and Return Policy, which provides SKC's sole liability and the buyer's exclusive remedy. To view the complete SKC Limited Warranty and Return Policy, go to <http://www.skcinc.com/warranty.asp>.

## Collection of Isocyanates

SKC offers two coated filters with different loading levels for collecting isocyanates using OSHA Method 42 or 47.

**Filter No. 225-9013** contains a 1.0-mg loading of 1-(2-pyridyl) piperazine (1-2 PP) with a three-month freezer shelf-life. This filter is appropriate for both OSHA methods.

**Filter No. 225-9002** contains a 2.0-mg loading of 1-2 PP. The excess reagent on the 225-9002 filter increases sample stability and freezer shelf-life to six months. The excess reagent may present analytical problems during derivative separation. This filter traps both vapor and aerosol phases. Coated Filter 225-9002 can be used for both OSHA methods.

## ISO-CHEK Isocyanate Sampling System

Suitable for most isocyanates, the patented\* ISO-CHEK® employs a two-stage filter arrangement that results in the simultaneous collection and separation of vapor from aerosol at the point of collection. The filter that collects the vapor phase is treated with 9-(N-methylaminomethyl) anthracene (MAMA) reagent that is highly stable to minimize storage and handling requirements. *See ordering information on page 2. For more information, go to [www.skcinc.com/instructions/1637.pdf](http://www.skcinc.com/instructions/1637.pdf).*

## Collection of Sulfur Dioxide

SKC Filter No. 225-9005 is a modification of NIOSH Method 6004. This single 3-piece cassette replaces two 2-piece cassettes in series following the 1993 NIOSH revisions. Reference: Lorberau, C., "Determination of Gaseous and Particulate Fluorides by Ion Chromatographic Analysis," *Appl. Occup. and Env. Hyg.*, 8, (9), 1993, pp. 775-784.

\* U.S. Patent No. 4,961,916



# Coated Filters in Preloaded Cassettes

## Coated Filter Selection Guide

Chemical	Method <sup>∞</sup>	Filter; Coating Preloaded in Cassettes	Cassette w/sealing bands	Cat. No.*
Acetic anhydride	OSHA 82	2 Glass filters; 1-(2-pyridyl) piperazine	4-piece, 37 mm	225-9009 §
Acetic anhydride	OSHA 102	2 Glass filters; veratrylamine & di-n-octyl phthalate	4-piece, 37 mm	225-9010 †
4-Aminobiphenyl	OSHA 93	2 Glass filters; sulfuric acid	3-piece, 37 mm	225-9004
Aniline	NIOSH 2017 †	2 Glass filters; sulfuric acid	3-piece, 37 mm	225-9004 †
Arsenic, volatile compounds	OSHA ID-105	1 MCE filter & cellulose pad; sodium carbonate	3-piece, 37 mm	225-9001
Benzidine	OSHA 65	2 Glass filters; sulfuric acid	3-piece, 37 mm	225-9004
Bromine, Chlorine	NIOSH 6011	1 25-mm PTFE pre-filter & polypropylene support; 1 25-mm specially cleaned silver membrane & polypropylene support (in 25-mm cassette)	3-piece, 25 mm	225-9006
Crotonaldehyde	OSHA 81	2 Glass filters; 2,4-dinitrophenylhydrazine and phosphoric acid	3-piece, 37 mm	225-9019 §
o-Dianisidine	OSHA 71	2 Glass filters; sulfuric acid	3-piece, 37 mm	225-9004
3,3'-Dichlorobenzidine	OSHA 65	2 Glass filters; sulfuric acid	3-piece, 37 mm	225-9004
Diisocyanates (HDI; 2,6-TDI; 2,4-TDI)	ASTM D5836 Δ OSHA 42 †	1 Glass filter & cellulose support; 1-(2-pyridyl) piperazine †	3-piece, 37 mm	225-9013 §† 225-9002 †§
Diphenylamine	OSHA 78	2 Glass filters; sulfuric acid	3-piece, 37 mm	225-9004
Fluorides	OSHA ID-110 NIOSH 7902 & 7906 ASTM D4765	1 MCE filter & cellulose pad; sodium carbonate	3-piece, 37 mm	225-9001 #
Fluoride, particulates	EPA 14A (Not TO-14A)	2 PVC filters & supports; sodium formate/ Metrice <sup>®</sup> filter; uncoated	4-piece, 37 mm	225-9016
Glutaraldehyde	OSHA 64	2 Glass filters; 2,4-dinitrophenylhydrazine and phos- phoric acid	4-piece, 37 mm	225-9003 §
Hydrazine	OSHA 108	2 Glass filters; sulfuric acid	3-piece, 37 mm	225-9012
Isocyanates	ASTM Σ	1 PTFE filter; 1 Glass filter treated with MAMA		225-9022 225-9022A
Isocyanates, organic	MDHS 25/3 (U.K.)	1 25-mm AE Glass filter; methoxyphenyl piperazine °		225-9011 °§
n-Isopropylaniline	OSHA 78	2 Glass filters; sulfuric acid	3-piece, 37 mm	225-9004
Maleic anhydride	OSHA 86	2 Glass filters; veratrylamine	3-piece, 37 mm	225-9021 §
Mercaptans (methyl-, ethyl-, n-butyl-, and phenyl-)	NIOSH 2542 OSHA 26	1 Glass filter; mercuric acetate	2-piece, 37 mm	225-9007 §
4,4'-Methylene bis (2-Chloroaniline) (MOCA)	OSHA 71	2 Glass filters; sulfuric acid	3-piece, 37 mm	225-9004
Methylene bisphenyl (MDI)	OSHA 47 †	1 Glass filter & cellulose support; 1-(2-pyridyl) piperazine †	3-piece, 37 mm	225-9013 §† 225-9002 †§
4,4'-Methylenedianiline	OSHA 57 & NIOSH 5029	2 Glass filters; sulfuric acid	3-piece, 37 mm	225-9004
1-Naphthylamine, 2-Naphthylamine	OSHA 93	2 Glass filters; sulfuric acid	3-piece, 37 mm	225-9004
Nitrobenzene	NIOSH 2017 †	2 Glass filters; sulfuric acid	3-piece, 37 mm	225-9004 †
Ozone	OSHA ID-214	2 Glass filters; nitrite-impregnated	3-piece, 37 mm	225-9014 †§
Phenylenediamine (o-, m-, p-)	OSHA 87	2 Glass filters; sulfuric acid	3-piece, 37 mm	225-9004
Phosphine	OSHA 1003	1 Glass filter; 1 polyester filter treated with mercuric chloride	3-piece, 37 mm	225-9018 †§
Sulfur dioxide	NIOSH 6004 (modified)	1 MCE pre-filter & support/1 cellulose filter & support; sodium carbonate	3-piece, 37 mm	225-9005
2,4-Toluenediamine	OSHA 65	2 Glass filters; sulfuric acid	3-piece, 37 mm	225-9004
2,6-Toluenediamine	OSHA 65	2 Glass filters; sulfuric acid	3-piece, 37 mm	225-9004
o-Tolidine	OSHA 71	2 Glass filters; sulfuric acid	3-piece, 37 mm	225-9004
o-Toluidine	NIOSH 2017 †	2 Glass filters; sulfuric acid	3-piece, 37 mm	225-9004 †
Toluidine (o-, m-, p-)	OSHA 73	2 Glass filters; sulfuric acid	3-piece, 37 mm	225-9004
Valeraldehyde	OSHA 85	3 Glass filters; 2,4-dinitrophenylhydrazine and phosphoric acid	3-piece, 37 mm	225-9020 §
m-Xylenediamine (m-XDA, p-XDA)	OSHA 105	2 Glass filters; sulfuric acid	3-piece, 37 mm	225-9004

\* Coated filters have a limited shelf-life.

† Custom order due to very limited shelf-life

Δ ASTM D5836 and D5932 for 2,4-TDI, 2,6-TDI only

◇ Filters only; not preloaded in cassettes

§ Storage below 39.2 F (4 C) required

¥ Also requires Sorbent Tube Cat. No. 226-15

‡ Suitable for OSHA Methods 42 & 47;

225-9002 contains higher 2.0 mg 1-2 PP loading

∞ The methods listed are the most widely used. Additional methods may be listed in the Sampling Guide at [www.skinc.com](http://www.skinc.com).

# The concept of sampling for fluorides in air using a double filter is patented in Canada by IRSST (Institut de recherche Robert-Sauvé en santé et en sécurité du travail du Québec), 21-April-92, Patent No. 1,299,114.

Σ Meets multiple ASTM methods

