

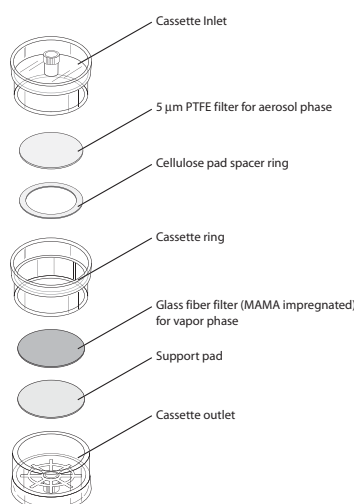
ISO-CHEK

Complete Isocyanate Sampling System

- **Accurately samples diisocyanates: HDI, MDI, IPDI, HMDI, 2,4-TDI, and 2,6-TDI**
- **The only filter-based sampling system that simultaneously traps and separates both monomers and oligomers**
 - Enhanced detection of toxic risk
- **Decreases sample preparation and analysis time by 40% compared to other methods**
 - Pre-made calibration standards are available
- **Highly stable — minimizes storage and handling**
- **Highly sensitive analysis provides detection limits below current regulated exposure levels**
 - Ideal for occupational sampling and environmental surveys
 - Requires only a 15-minute sample time
- **ISO-CHEK-certified laboratories** ensure accurate and consistent isocyanate analysis**
- **Meets the specifications of several methods**
 - ASTM D5932-96 2,4, 2,6-TDI (monomer)
 - ASTM D6561-00 HDI (aerosol oligomer), the only U.S. standard for oligomers
 - ASTM D6562-00 HDI (gaseous monomer)

Description

The patented* ISO-CHEK® Isocyanate Sampling System is a preloaded 3-piece cassette that contains two stages. Stage one contains an untreated PTFE filter to collect the aerosol phase and stage two holds a glass fiber filter impregnated with (N-methyl-aminomethyl) anthracene (MAMA) for the vapor phase of isocyanates. This system effectively traps and separates the phases at the point of collection and offers many advantages over other methods for sampling isocyanates.



The ISO-CHEK Advantage!

Simultaneous collection and separation of phases at the point of collection: ISO-CHEK separates the vapor and aerosol phases at the point of collection for less time-consuming and more accurate analysis of each phase.

Reagent and samples are stable at room temperature: Degradation of samples or loss of derivatizing reagent was found under ambient conditions when using other methods.

15-minute sampling time: Isocyanates are sensitizing agents. Even short 15-minute exposures at high concentrations can lead to sensitivity in susceptible individuals. Therefore, short-term sampling provides more meaningful results than the longer sampling times required by other methods.

No handling precautions: No refrigeration of the cassette, derivatizing reagent, or sample is required. ISO-CHEK is safe to use — no broken glass or splashing impinger liquid.

Principle of Operation

A sample pump draws air through the ISO-CHEK cassette. Aerosols are trapped on the PTFE filter while gases pass through to the next filter. Vapors are trapped on the fiber glass filter impregnated with MAMA. A chemical reaction occurs on this filter resulting in the formation of a highly detectable urea derivative. The PTFE filter is derivatized in the field by placing it in a supplied jar containing Methoxy-2-phenyl-1 piperazine reagent (MOPIP) in toluene. Monomeric and oligomeric phases are separated by using a reverse phase HPLC column with a UV detector and fluorescence detector in series.

Using ISO-CHEK

Simply unplug and connect the cassette to a calibrated sample pump capable of at least 1 L/min. Take a 15-minute sample. Immediately after sampling, open the cassette, remove the PTFE filter with forceps, match the cassette ID number with the reagent jar number, and place the filter in the prepared reagent jar. The fiberglass filter remains in the cassette. Replug the cassette, wrap it in foil to protect the sample from light, and ship the jar and cassette to an ISO-CHEK-certified laboratory**.

* U.S. Patent No. 4,961,916. Developed and patented by IRSST (Institut de recherche Robert-Suavé en santé et en sécurité du travail du Québec)

** List of laboratories available. Go to www.skinc.com.



Performance Profile

Collection Method:	Dual filter cassette; 5- μ m PTFE membrane traps aerosol phase, glass fiber filter impregnated with MAMA collects vapor phase
Sample Flow Rate:	1 L/min
Sample Time:	15 minutes
Derivatizing Reagent:	9-(N-methylaminomethyl) anthracene (MAMA) <i>(filter coating for vapor phase)</i>
Reagent Stability:	10 months at ambient temperature
Derivatizing Solution:	1-(2-Methoxyphenyl) piperazine (MOPIP) <i>(for aerosol phase)</i> Supplied in jars containing 5 ml of solution (0.5 mg MOPIP in 5 ml toluene)
Sample Stability:	Can be stored at 39.2 F (4 C) for up to 10 days. SKC recommends sample analysis as soon as possible.
Analysis:	Reverse phase HPLC with UV and fluorescence detection
Quantitation Limit:	<ul style="list-style-type: none"> • 0.15 ppb for 2,4-TDI, 2,6-TDI, 1,6-HDI, IPDI, MDI, HMDI monomer • 1.5 ppb for 1,6-HDI and MDI oligomers
Limit of Detection:	<ul style="list-style-type: none"> • 0.2 mg/m³ for 2,4-TDI and 2,6-TDI • 0.6 mg/m³ for 1,6-HDI • 0.3 (UV)/0.08 (FD) mg/m³ ** for MDI

** First number is with UV detector, the second is with a fluorescence detector.

Ordering Information

Description	Cat. No.	Qty.
ISO-CHEK Sampling System with Derivatizing Reagent†† , preloaded clear cassettes and jars of derivatizing solution (MOPIP in toluene)	225-9023†*	4
	225-9023A†*	10
ISO-CHEK Sampling System* , preloaded clear cassettes for isocyanates	225-9022*	12
<i>Requires derivatizing solution, see below</i>	225-9022A*	36

Accessories

Derivatizing Solution†† , 5 ml of MOPIP in toluene, in jars	225-9050†*	12
Jars , 37 mm with PTFE-lined cap	225-8377	36
Calibration Standard‡ , MAMA-HDI, 1 gram	225-9053‡	ea
Calibration Standard‡ , MAMA-HMDI, 1 gram	225-9056‡	ea
Calibration Standard‡ , MAMA-IPDI, 1 gram	225-9054‡	ea
Calibration Standard‡ , MAMA-MDI, 1 gram	225-9062‡	ea
Calibration Standard‡ , MAMA-2,4-TDI and 2,6-TDI, 1 gram	225-9052‡	ea
Calibration Standard Set‡ , HDI, MDI, IPDI, 2,4-TDI, 2,6-TDI, 1 gram each	225-9055‡	set
Packaging Kit , materials for shipping 10 pkgs of 10 samplers and jars	225-9059	10
Packaging Kit , materials for shipping 20 pkgs of 4 samplers and jars	225-9063	20
SureSeal Cassette Opener , stainless steel, with extended handle for easier opening of 37 and 25-mm cassettes	225-13-5A	ea

* Limited shelf-life

† Hazmat shipping charges for air shipments only, ground shipments exempt; not available for export

‡ Limited shelf-life, freezer storage recommended; refrigerated shipping not required

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>.

