

gol128@sptums.com :

(CIS IOM)
NIOSH

± / (PVC)

IOM

IOM "

/ ± /)

(P< /)

(/ ± /

/ ± /)

/ ± /

(/ ± /

(

/ ± /

/ ± /)

CIS

(P> /)

Kerr)

(et al. 2002; James and Zalk 1998

National

Institute of Occupational Safety and Health (NIOSH), U.S. Environmental Protection Agency (EPA), International Agency for Research on Cancer (IARC)

(EPA 1998)

Ashley et al. 2003; James and Zalk 1998;)

Kriech et al. 2004; Tsai and Vincent 2001; .(Predicala and Maghirang 2003

Occupational "

Safety and Health Administration (OSHA)

OSHA, ID-) (

.(215 1998; NIOSH 7600 1994

"

Conical Inhalable Sampler (CIS)

.(EPA 1998)

(

(Open-face)

Clinkenbeard)

(Closed-face)

(et al. 2002

Baldwin and)

American Conference of Governmental Industrial Hyginists(ACGIH)

.(Maynard 1998

()

(TA2 Air Flow)
/

(Kuo et al. 1997)

: (: (

()

(Tirgar et al. 2006)

: (

SAS

: (Institute of Occupational Medicine (IOM)
CIS

NIOSH

(NIOSH 7600 1994)

/

/ (Side by side)

Beckman

DU

M.S.A

) PVC

(

SKC

/ / / / / / /

PCXR3

± /

CIS

/

($p < /$)

/ \pm /

IOM

IOM

CIS

()

(Chen et al. 2002)

(Werner et al. 1999)

()

IOM

IOM

$$E_{IOM} = B \times E_{37mm}$$

E_{IOM}

B

CIS

IOM

() Kuo . IOM
 CIS % % %

(Kuo et al. 1997) IOM

CIS :

() ()

(

IOM IOM

(% /) (% /) IOM
 (% /) (% /) CIS

Ashley et al. 2003;) (Shin and Paik 2000 IOM

CIS :

:

" (CIS IOM)

(P< /)

(Kuo et al. 1997))

(Kenny et al. 1999) Kenny (

GSP IOM

GSP

:

/

IOM CIS (Bonin et al. 1995)

()

CIS (Li et al. 2000)

IOM .

/ /

Li CIS

. (Li et al. 2000)

IOM CIS)

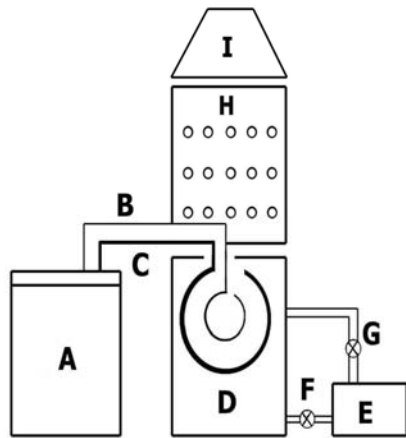
CIS (

IOM

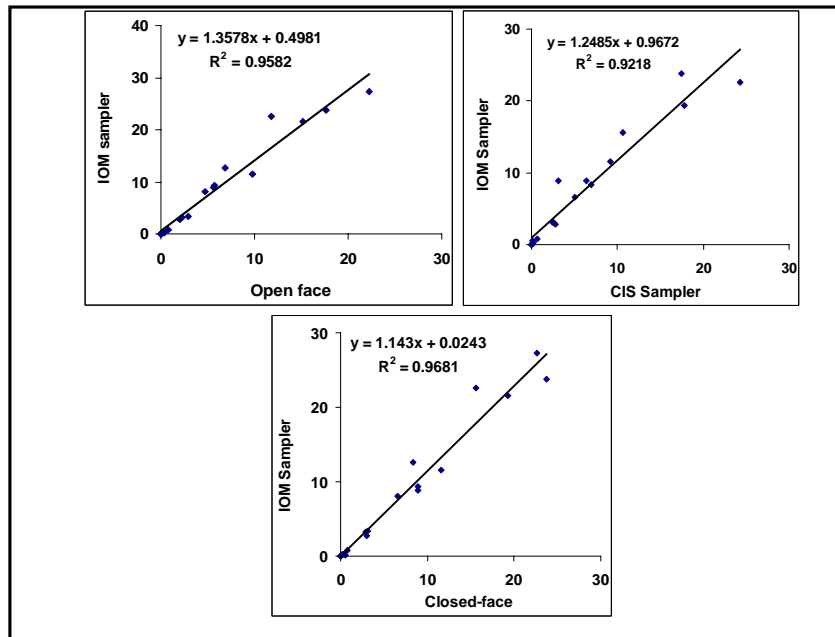
IOM

.(Kenny et al. 1997)

(/ ")



E D C B () A
 I H G F



IOM

CIS

(min)	(cm)	(g/l)
-------	------	-------

(N =)

SD ($\mu\text{g}/\text{m}^3$)		($\mu\text{g}/\text{m}^3$)		
/	/	/	/	Close-face
/	/	/	/	Open-face
/	/	/	/	IOM
/	/	/	/	CIS

IOM**CIS**

IOM			
R^2	SE/B	B	
/	/	/	CIS
/	/	/	
/	/	/	

:B

: SE/B

: R^2

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