

gol128@sptums.com :

(CIS IOM)
NIOSH

()
± / (PVC)
() :

(P< /)

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

) PVC

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M.S.A

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SKC

/ / / / / / /

PCXR3

± /

CIS

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($p < /$)

/ \pm /

IOM

IOM

CIS

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(Chen et al. 2002)

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(

(Werner et al. 1999)

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IOM

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(

(

IOM

)

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

E_{IOM}

(

B

CIS

-

IOM

() Kuo . IOM
CIS % % %

(Kuo et al. 1997) IOM
IOM

CIS :

) ()
(

IOM IOM

(% /) (% /) IOM
Ashley et al. 2003;) (% /) CIS

(Shin and Paik 2000 IOM

CIS :

:" (CIS IOM)

(P< /)

(Kuo et al. 1997))

(Kenny et al. 1999) Kenny (

GSP IOM

IOM CIS : GSP
/ (Bonin et al. 1995)

CIS ()
(Li et al. 2000)

IOM
/ / :
Li CIS
(Li et al. 2000)

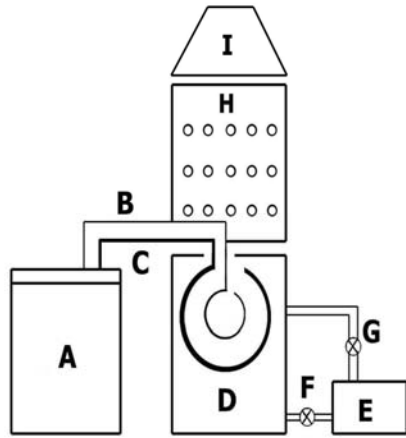
IOM CIS)
CIS (

IOM

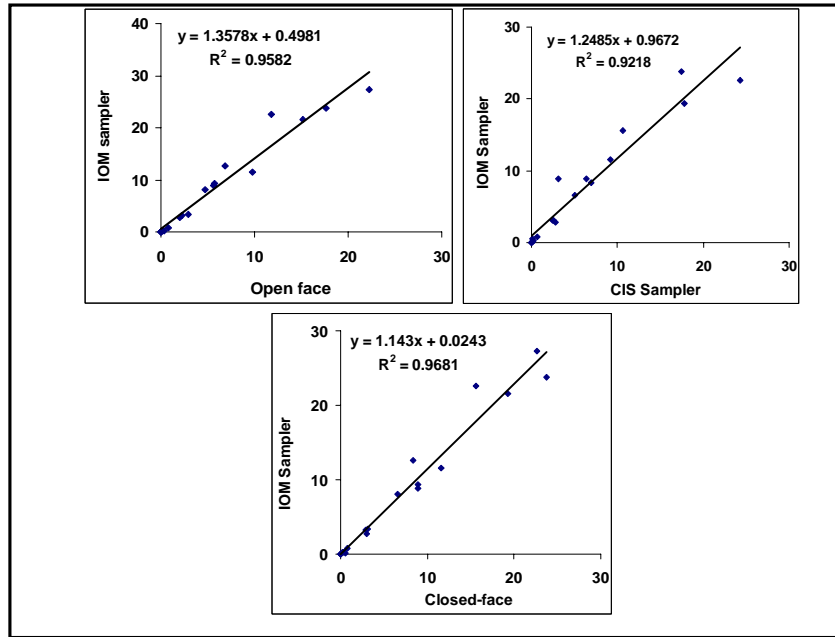
IOM :

.(Kenny et al. 1997)

(/ ")



E D C B () A
I H G F



IOM

CIS

(min)	(cm)	(g/l)
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(N =)

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

IOM**CIS**

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

:B

: SE/B

: R^2

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