

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

) PVC

DU

M.S.A

(

SKC

/ / / / / / / /

PCXR3

± /

CIS

/

($p < /$)

/ \pm /

IOM

IOM

CIS

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(Chen et al. 2002)

(Werner et al. 1999)

IOM

IOM

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

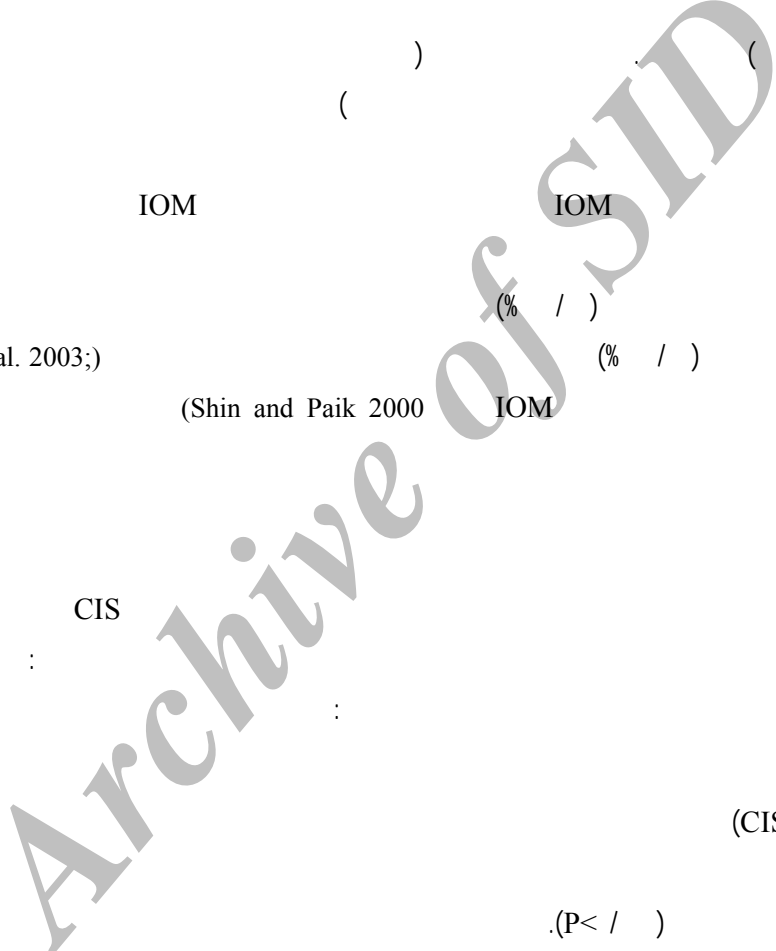
E_{IOM}

B

CIS

IOM

() Kuo . IOM
CIS % % %
.(Kuo et al. 1997) IOM
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



GSP

IOM

CIS

(Bonin et al. 1995)

CIS

IOM

()

(Li et al. 2000)

/ /

Li

CIS

(Li et al. 2000)

IOM

CIS

)

CIS

(

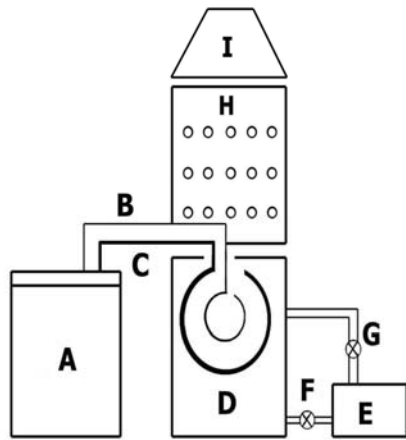
IOM

IOM

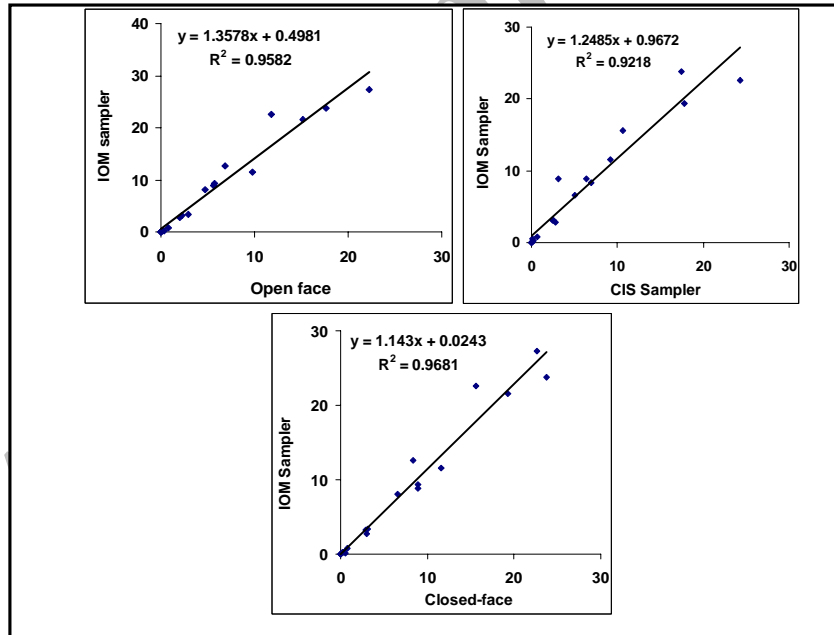
(Kenny et al. 1997)

(/ ")

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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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