

List of international Occupational Exposure Limits (OELs) [not exhaustive; regularly followed by ALIPA]

H12MDI							
Country	Type of OEL*	Date of last revision	ppm	mg/m3	determined as	Reference	Remark
Austria	MAK	07 2001	0.005	0.054		MAK list	Skin designation
	MAK CEIL	07 2001	0.005	0.054			
Belgium	TWA	12 1999	0.005	0.055		Occupational Exposure Limit Values	
Canada (Alberta)	CEILING	01 1997	0.01 ppm	0.1 mg/m3		Occupational Health and Safety Act, Chemical Hazards Regulation, Regulation 393/88, Schedule 1	
Canada (British Columbia)	TWA	01 1997	0.005	not given		Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended	Skin designation
	STEL	01 1997	0.01	not given			
			Keep exposure as low as reasonably achievable.				
Canada (Ontario)	TWA	09 2000	0.005	not given		Ontario OELs (Ministry of Labor - Control of Exposure to Biological or Chemical Agents)	
Canada (Quebec)	TWA	1994	0.005	0.054		Regulation Respecting the Quality of the Work Environment	
Denmark	TLV	12 1996	0.005 ppm	0.054 mg/m3		Exposure Limit Values	
Finland	STEL	2002	not given	0.035	NCO	Workplace Exposure Limits	
Germany	MAK	10 2000	not given	0.054 mg/m3		TRGS 900, Limit Values in the Ambient Air at the Workplace	Skin designation
Greece	TWA	09 2001	0.01	0.11		Decree No. 90/1999, as amended	
	STEL	09 2001	0.01	0.11			
Hong Kong	TWA	10 1998	not given	0.02	NCO	Occupational Exposure Limits for Chemical Substances in the Work	
	STEL	10 1998	not given	0.07	NCO		
Indonesia	TWA	1997	0.005	0.054		OELs. Ministry of Manpower (Circular Letter No.: SE-01/MEN/1997)	
Ireland	TWA	1999	not given	0.02	NCO	Occupational Exposure Limits	
	STEL	1999	not given	0.07	NCO		
Italy	TWA	2000	0.005	not given		OELs	
Mexico	TWA	03 2000	0.01	0.11		Occupational Exposure Limit Values	
Netherlands	CEILING	2002	0.01	0.11		National MAC List	Skin designation
Norway	TLV	1996	0.005	0.05		Administrative Norms for Contaminants in the Workplace	
	STEL	2001	0.01	not given			
Spain	TWA	2003	0.005	0.55		Occupational Exposure Limits	
Sweden	TWA	08 1996	0.005	not given		Occupational Exposure Limit Values	
	TGV	08 1996	0.01	not given			
Switzerland	TWA	1999	0.005	0.02	NCO	SUVA Grenzwerte am Arbeitsplatz	
	STEL	2001	0.005	0.02	NCO		
UK	TWA	2001	not given	0.02	NCO	COSHH Exposure Limit Values	
	STEL	2001	not given	0.07	NCO		
U.S.	TWA	2003	0.005	not given		ACGIH Threshold Limit Values	
	CEILING	1992	0.01	0.11		NIOSH Recommended Safety and Health Standards for Hazardous Agents in the Workplace	
	CEILING	06 1993	0.01	0.11		OSHA Table Z-1-A (29 CFR 1910.1000)	
U.S. (California)	TWA	not given	0.005	0.054		California Code of Regulations, Title 8, Section 5155, Airborne Contaminants	

HDI							
Country	Type of OEL*	Date of last revision	ppm	mg/m3	determined as	Reference	Remark
Austria	MAK	03 2003	0.005	0.035		MAK list	
	MAK CEIL	03 2003	0.005	0.035			
Belgium	TWA	12 1999	0.005	0.034		Occupational Exposure Limit Values	
Canada (Alberta)	TWA	01 1997	0.005	0.034		Occupational Health and Safety Act, Chemical Hazards Regulation, Regulation 393/88, Schedule 1	
	CEILING	01 1997	0.02	0.138			
Canada (British Columbia)	TWA	01 1997	0.005	not given		Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended	
	STEL	01 1997	0.01	not given			
			Keep exposure as low as reasonably achievable.				
Canada (Ontario)	TWAEV	not given	0.005	0.2 micro-moles/m3		Ontario OELs (Reg. 833, Control of Exposure to Biological or Chemical Agents; Regs. 835-846, Designated Substances)	
	CEV	not given	0.02	0.8 micro-moles/m3			
Canada (Quebec)	TWA	1994	0.005	0.034		Regulation Respecting the Quality of the Work Environment	
China	TWA	2002	not given	0.03		Occupational Exposure Limits for Chemical Substances	
	STEL	2002	not given	0.15			
Denmark	TLV	10 2002	0.005	not given		Danish List of Organic Solvents, Danish Labor Inspectorate	
	TLV	12 1996	0.005	0.035			
Finland	STEL	2002		0.035	NCO	Workplace Exposure Limits	
France	VME	1999	0.01	0.075		INRS, Occupational Exposure Limits To	

	VLE	1999	0.02	0.15		Dangerous Substances
<b>Germany</b>	MAK	10 2000	0.005	0.035		TRGS 900, Limit Values in the Ambient Air at the Workplace
<b>Greece. OELs</b>	TWA	09 2001	0.01	0.075		Decree No. 90/1999, as amended
	STEL	09 2001	0.02	0.15		
<b>Indonesia</b>	TWA	1997	0.005	0.034		OELs. Ministry of Manpower (Circular Letter No.: SE-01/MEN/1997)
<b>Ireland</b>	TWA	1999	not given	0.02	NCO	Occupational Exposure Limits
	STEL	1999	not given	0.07	NCO	
<b>Italy</b>	TWA	2000	0.005	not given		OELs
<b>Netherlands</b>	TWA	2000	0.005	0.04		National MAC List
	STEL	2000	0.02	0.14		
<b>Norway</b>	TLV	1996	0.005	0.035		Administrative Norms for Contaminants in the Workplace
	STEL	2001	0.01	not given		
<b>Spain</b>	TWA	1999	0.005	0.035		Occupational Exposure Limits
<b>Sweden</b>	TWA	03 2000	0.005	0.03		Occupational Exposure Limit Values
	TGV	03 2000	0.01	0.07		
<b>Switzerland</b>		2001	not given	not given		SUVA Grenzwerte am Arbeitsplatz
<b>Taiwan</b>	TWA	12 2003	0.005	0.034		OELs. (Standards on Workplace Atmosphere of Dangerous and Hazardous Materials)
<b>UK</b>	TWA	2001	not given	0.02	NCO	COSHH Exposure Limit Values
	STEL	2001	not given	0.07	NCO	
<b>U.S.</b>	TWA	2003	0.005	not given		ACGIH Threshold Limit Values
	REL	06 1997	0.005	0.035		NIOSH Pocket Guide to Chemical Hazards
	CEILING	06 1997	0.02	0.14		
<b>U.S. (California)</b>	TWA	not given	0.005	0.034		California Code of Regulations, Title 8, Section 5155, Airborne Contaminants
	CEILING	not given	0.01	not given		

#### HDI biuret

Country	Type of OEL*	Date of last revision	ppm	mg/m3	determined as	Reference	Remark
<b>Germany</b>	EBW	-		0.5		Determination according to TRGS 430	

#### HDI trimer

Country	Type of OEL*	Date of last revision	ppm	mg/m3	determined as	Reference	Remark
<b>Germany</b>	EBW	-		0.5		Determination according to TRGS 430	

#### HDI trimer, MEKO blocked

Country	Type of OEL	Date of last revision	ppm	mg/m3	determined as	Reference	Remark
-	TWA	not given	3	not given		Recommendation of the MEKO manufacturers	OEL for MEKO
	STEL	not given	10	not given			
To our best knowledge, no OELs have been established for HDI trimer, MEKO blocked							

#### HDI uretdion

Country	Type of OEL*	Date of last revision	ppm	mg/m3	determined as	Reference	Remark
<b>Germany</b>	EBW	-		0.5		Determination according to TRGS 430	

#### IPDI

Country	Type of OEL*	Date of last revision	ppm	mg/m3	determined as	Reference	Remark
<b>Austria</b>	MAK	07 2001	0.01	0.09		MAK list	
	MAK CEIL	07 2001	0.02	0.18			
<b>Belgium</b>	TWA	12 1999	0.005	0.046		Occupational Exposure Limit Values	Skin designation
<b>Canada (Alberta)</b>	TWA	01 1997	0.01	0.09		Occupational Health and Safety Act, Chemical Hazards Regulation,	Skin designation
	CEILING	01 1997	0.03	0.27			
<b>Canada (British Columbia)</b>	TWA	01 1997	0.005	not given		Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as	Skin designation
	STEL	01 1997	0.01	not given			
				Keep exposure as low as			
<b>Canada (Ontario)</b>	TWAEV	not given	0.005	0.2 micro-moles/m3		Ontario OELs (Reg. 833, Control of Exposure to Biological or Chemical Agents; Regs. 835-846, Designated Substances)	
	CEV	not given	0.02	0.8 micro-moles/m3			
<b>Canada (Quebec)</b>	TWA	1994	0.005	0.045		Regulation Respecting the Quality of the Work Environment	
<b>China</b>	TWA	2002	not given	0.05		Occupational Exposure Limits for Chemical Substances	
	STEL	2002	not given	0.1			
<b>Denmark</b>	TLV	10 2002	0.005	not given		Danish List of Organic Solvents, Danish Labor Inspectorate	Skin designation
	TLV	12 1996	0.005	0.045		Exposure Limit Values	
<b>Finland</b>	STEL	2002		0.035	NCO	Workplace Exposure Limits	
<b>France</b>	VME	1999	0.01	0.09		INRS, Occupational Exposure Limits To	

	VLE	1999	0.02	0.18		Dangerous Substances	
<b>Germany</b>	MAK	10 2000	0.01	0.092		TRGS 900, Limit Values in the Ambient Air at the Workplace	Skin designation
<b>Greece</b>	TWA	09 2001	0.01	0.09		Decree No. 90/1999, as amended	Skin designation
	STEL	09 2001	0.02	0.18			
<b>Hong Kong</b>	TWA	10 1998	not given	0.02	NCO	Occupational Exposure Limits for Chemical Substances in the Work	
	STEL	10 1998	not given	0.07		OELs. Ministry of Manpower (Circular Letter No.: SE-01/MEN/1997)	
<b>Indonesia</b>	TWA	1997	0.005	0.045		Occupational Exposure Limits	
<b>Ireland</b>	TWA	1999	not given	0.02	NCO	Occupational Exposure Limits	
	STEL	1999	not given	0.07	NCO		
<b>Italy</b>	TWA	2000	0.005	not given		OELs	
<b>Mexico</b>	TWA	03 2000	0.01	0.09		Occupational Exposure Limit Values	
<b>Netherlands</b>	TWA	2000	0.005	0.05		National MAC List	
	STEL	2000	0.02	0.19			
<b>Norway</b>	TLV	1996	0.005	0.045		Administrative Norms for Contaminants in the Workplace	
	STEL	2001	0.01	not given			
<b>Spain</b>	TWA	1999	0.005	0.046		Occupational Exposure Limits	
<b>Sweden</b>	TWA	03 2000	0.005	0.05		Occupational Exposure Limit Values	
	TGV	03 2000	0.01	0.09			
<b>Switzerland</b>		2003	not given	not given		SUVA Grenzwerte am Arbeitsplatz	
<b>UK</b>	TWA	2001	not given	0.02	NCO	COSHH Exposure Limit Values	
	STEL	2001	not given	0.07	NCO		
<b>U.S.</b>	TWA	2003	0.005	not given		ACGIH Threshold Limit Values	
	REL	06 1997	0.005	0.045		NIOSH Pocket Guide to Chemical Hazards	Skin designation
	CEILING	06 1997	0.02	0.18			
	TWA	06 1993	0.005	not given		OSHA Table Z-1-A (29 CFR 1910.1000)	
	STEL	06 1993	0.02	not given			
<b>U.S. (California)</b>	TWA	not given	0.005	0.045		California Code of Regulations, Title 8, Section 5155, Airborne Contaminants	Skin designation
	STEL	not given	0.02	not given			

#### IPDI trimer

Country	Type of OEL*	Date of last revision	ppm	mg/m3	determined as	Reference	Remark
<b>Germany</b>	EBW	-	0.1	0.92		Determination according to TRGS 430	

#### IPDI trimer, MEKO blocked

Country	Type of OEL*	Date of last revision	ppm	mg/m3	determined as	Reference	Remark
-	TWA	not given	3	not given		Recommendation of the MEKO manufacturers	OEL for MEKO
	STEL	not given	10	not given			
To our best knowledge, no OELs have been established for IPDI trimer, MEKO blocked							

Status: November 2004

\*For the definition of the different OELs please refer to the country specific legislation