

ECETOC TRAv3: an in-depth comparison of publicly available measurement data sets with modelled estimates of occupational inhalation exposure to chemicals

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Supplementary material *(for legenda, see last page of document)*

Reference	Additional info	ID	Category	Task description	Ind/Prof	PROC	Substance	CAS no	MW
Kupczewska et.al; Int J Occup Med Environ Health 2011;24(2):208–217		KUPCE-1	liquids	filtration, decanting activities in synthesis section (paints&lacquers)	Ind	4	Toluene	108-88-3	92.1
Kupczewska et.al; Int J Occup Med Environ Health 2011;24(2):208–217		KUPCE-2	liquids	sole manipulation in shoe factory	Ind	10	Toluene	108-88-3	92.1
Kupczewska et.al; Int J Occup Med Environ Health 2011;24(2):208–217		KUPCE-3	liquids	sewing in shoe factory	Ind	10	Toluene	108-88-3	92.1
Kupczewska et.al; Int J Occup Med Environ Health 2011;24(2):208–217		KUPCE-5	liquids	refinery activities (supervisor, controller, operator, mechanician)	Ind	2	Toluene	108-88-3	92.1
Kupczewska et.al; Int J Occup Med Environ Health 2011;24(2):208–217		KUPCE-6	liquids	filtration, decanting activities in synthesis section (paints&lacquers)	Ind	4	Ethylacetate	141-78-6	88.1
Kupczewska et.al; Int J Occup Med Environ Health 2011;24(2):208–217		KUPCE-7	liquids	sole manipulation in shoe factory	Ind	10	Ethylacetate	141-78-6	88.1
Kupczewska et.al; Int J Occup Med Environ Health 2011;24(2):208–217		KUPCE-8	liquids	sewing in shoe factory	Ind	10	Ethylacetate	141-78-6	88.1
Kupczewska et.al; Int J Occup Med Environ Health 2011;24(2):208–217		KUPCE-10	liquids	filtration, decanting activities in synthesis section (paints&lacquers)	Ind	4	Acetone	67-64-1	58.1
Kupczewska et.al; Int J Occup Med Environ Health 2011;24(2):208–217		KUPCE-11	liquids	sole manipulation in shoe factory	Ind	10	Acetone	67-64-1	58.1
Kupczewska et.al; Int J Occup Med Environ Health 2011;24(2):208–217		KUPCE-12	liquids	sewing in shoe factory	Ind	10	Acetone	67-64-1	58.1
Kupczewska et.al; Int J Occup Med Environ Health 2011;24(2):208–217		KUPCE-14	liquids	filtration, decanting activities in synthesis section (paints&lacquers)	Ind	4	Xylene	95-47-6	106.2
Spee et.al; Int J Hyg Environ Health 2017; 220: 1190-1194		SPEE-2	liquids	floor coating, bakery	Pro	10	Methylmethacrylate	80-62-6	100.1
Lee et.al; Ann Work Exp Health 2019; 63(2): 197-217		TCE-1-twa	liquids	dipping in cleaning bath	Ind	10	Trichloroethylene	79-01-6	131.39
Lee et.al; Ann Work Exp Health 2019; 63(2): 197-217		TCE-2-twa	liquids	spraying solvent	Ind	7	Trichloroethylene	79-01-6	131.39
Lee et.al; Ann Work Exp Health 2019; 63(2): 197-217		TCE-3-twa	liquids	spraying in cleaner	Ind	13	Trichloroethylene	79-01-6	131.39

ID	VP [Pa]	Fugacity	Conc (%)	Duration Category	Indoor/ Outdoor	Ventilation	LEV	RPE	n	Sample time (min)	<LOD	GM (mg/m3)	GM (ppm)	GSD
KUPCE-1	3089	Medium	1-5%	>4hr	I	No	Yes	No	16	450	0		0.17	1.95
KUPCE-2	3089	Medium	>25%	>4hr	I	GV	No	No	8	450	0		16.84	1.75
KUPCE-3	3089	Medium	>25%	>4hr	I	GV	No	No	21	450	0		37.53	1.52
KUPCE-5	3089	Medium	>25%	>4hr	O	Outdoors	No	No	23	450	0		0.05	2.19
KUPCE-6	10300	High	5-25%	>4hr	I	No	Yes	No	14	450	0		1.91	2.45
KUPCE-7	10300	High	>25%	>4hr	I	GV	No	No	8	450	0		9.90	1.15
KUPCE-8	10300	High	>25%	>4hr	I	GV	No	No	21	450	0		48.61	1.44
KUPCE-10	24000	High	<1%	>4hr	I	No	Yes	no	16	450	0		0.01	4.46
KUPCE-11	24000	High	>25%	>4hr	I	GV	No	No	8	450	0		29.84	1.15
KUPCE-12	24000	High	>25%	>4hr	I	GV	No	No	21	450	0		34.16	1.59
KUPCE-14	821	Medium	>25%	>4hr	I	No	Yes	no	11	450	0		1.32	1.98
SPEE-2	3700	medium	>25%	>4hr	I	No	No	No	6	480	0		39.56	2.20
TCE-1-twa	9900	Medium	>25%	1-4hr	I	No	No	No	6	360	0		8.38	2.61
TCE-2-twa	9900	Medium	>25%	1-4hr	I	No	Yes	No	7	480	0		4.50	3.07
TCE-3-twa	13332	High	>25%	1-4hr	I	No	Yes	No	7	360	3		0.20	3.48

ID	P75 (mg/m3)	P75 (ppm)	TRA value (mg/m3)	TRA value (ppm)	ratio P75/TRA	Revised setting (ind/pro) and PROC assignment	Revised RMM/OC/PPE assignment	Valid for TRA comparison
KUPCE-1		0.27		0.40	0.66	contextual information indicates PROC4 is more appropriate than PROC2 (ECHA R12: not a continuous process; substantial opportunity for exposure)		Yes
KUPCE-2		24.94		35.00	0.71		ventilation changed from No to GV (no full info on workplace ventilation and LEV was accessible)	Yes
KUPCE-3		50.69		35.00	1.45		ventilation changed from No to GV (no full info on workplace ventilation and LEV was accessible)	Yes
KUPCE-5		0.08		3.50	0.02	contextual information indicates PROC2 is more appropriate than PROC1 (ECHA R12: opportunity for exposure)	indoors changed to outdoors (refinery: typical outdoor activities)	Yes
KUPCE-6		3.56		6.00	0.59	contextual information indicates PROC4 is more appropriate than PROC2 (ECHA R12: not a continuous process; substantial opportunity for exposure)		Yes
KUPCE-7		11.05		175.00	0.06		ventilation changed from No to GV (no full info on workplace ventilation and LEV was accessible)	Yes
KUPCE-8		63.06		175.00	0.36		ventilation changed from No to GV (no full info on workplace ventilation and LEV was accessible)	Yes
KUPCE-10		0.03		1.00	0.03	contextual information indicates PROC4 is more appropriate than PROC2 (ECHA R12: not a continuous process; substantial opportunity for exposure)		Yes
KUPCE-11		33.25		175.00	0.19		ventilation changed from No to GV (no full info on workplace ventilation and LEV was accessible)	Yes
KUPCE-12		47.41		175.00	0.27		ventilation changed from No to GV (no full info on workplace ventilation and LEV was accessible)	Yes
KUPCE-14		2.13		2.00	1.07	contextual information indicates PROC4 is more appropriate than PROC2 (ECHA R12: not a continuous process; substantial opportunity for exposure)		Yes
SPEE-2		68.43		100.00	0.68			Yes
TCE-1-twa		16.00		30.00	0.53			Yes
TCE-2-twa		9.58		7.50	1.28	contextual information indicates PROC7 is more appropriate than PROC13 (ECHA R12: task description is "spraying"; coding in Stoffenmanager is "Handling of liquids at high pressure resulting in substantial generation of mist of spray")	RPE changed from Yes to No (no indication that measurements have been performed inside the mask)	Yes
TCE-3-twa		0.46		15.00	0.03			Yes

Reference	Additional info	ID	Category	Task description	Ind/Prof	PROC	Substance	CAS no	MW
Lee et.al; Ann Work Exp Health 2019; 63(2): 197-217		TCE-5-twa	liquids	spraying solvent	Ind	10	Trichloroethylene	79-01-6	131.39
Lee et.al; Ann Work Exp Health 2019; 63(2): 197-217		PCE-1-twa	liquids	spraying in cleaner	Ind	10	Perchloroethylene	127-18-4	165.83
Lee et.al; Ann Work Exp Health 2019; 63(2): 197-217		PCE-2-twa	liquids	spraying solvent	Ind	7	Perchloroethylene	127-18-4	165.83
Lee et.al; Ann Work Exp Health 2019; 63(2): 197-217		PCE-3-twa	liquids	spraying solvent	Ind	10	Perchloroethylene	127-18-4	165.83
Lee et.al; Ann Work Exp Health 2019; 63(2): 197-217		PCE-4-twa	liquids	dipping in cleaning bath	Ind	7	Perchloroethylene	127-18-4	165.83
Lee et.al; Ann Work Exp Health 2019; 63(2): 197-217		PCE-5-twa	liquids	spraying solvent	Ind	7	Perchloroethylene	127-18-4	165.83
Lee et.al; Ann Work Exp Health 2019; 63(2): 197-217		AA-1-twa	liquids	spraying solvent	Ind	15	Allyl alcohol	107-18-6	58.08
Lee et.al; Ann Work Exp Health 2019; 63(2): 197-217		AA-2-twa	liquids	spraying solvent	Ind	13	Allyl alcohol	107-18-6	58.08
Lee et.al; Ann Work Exp Health 2019; 63(2): 197-217		ACE-1-twa	liquids	spraying solvent	Ind	10	Acetone	67-64-1	58.08
Lee et.al; Ann Work Exp Health 2019; 63(2): 197-217		ACE-2-twa	liquids	spraying in cleaner	Ind	10	Acetone	67-64-1	58.08
Lee et.al; Ann Work Exp Health 2019; 63(2): 197-217		ACE-3-twa	liquids	spraying solvent	Ind	10	Acetone	67-64-1	58.08
Lee et.al; Ann Work Exp Health 2019; 63(2): 197-217		ACE-4-twa	liquids	spraying in cleaner	Ind	10	Acetone	67-64-1	58.08
Lee et.al; Ann Work Exp Health 2019; 63(2): 197-217		ACE-5-twa	liquids	spraying solvent	Ind	10	Acetone	67-64-1	58.08
Lee et.al; Ann Work Exp Health 2019; 63(2): 197-217		BMP-1-twa	liquids	dipping in cleaning bath	Ind	15	1-Bromopropane	106-94-5	123
Lee et.al; Ann Work Exp Health 2019; 63(2): 197-217		CYC-1-twa	liquids	pouring in cleaning bath	Ind	13	Cyclohexanone	108-94-1	98.15
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	ART data	ETEAM-60	liquids	Rinsing activities of glassware	Pro	13	Acetone	67-64-1	58.08

ID	VP [Pa]	Fugacity	Conc (%)	Duration Category	Indoor/ Outdoor	Ventilation	LEV	RPE	n	Sample time (min)	<LOD	GM (mg/m3)	GM (ppm)	GSD
TCE-5-twa	9900	Medium	>25%	1-4hr	I	No	Yes	No	6	360	0		5.33	1.57
PCE-1-twa	2500	Medium	>25%	1-4hr	I	No	Yes	No	9	480	0		3.01	1.84
PCE-2-twa	2500	Medium	>25%	<15min	I	No	Yes	No	6	360	0		13.90	1.75
PCE-3-twa	2500	Medium	>25%	1-4hr	I	No	Yes	No	8	360	0		1.20	1.60
PCE-4-twa	2500	Medium	>25%	1-4hr	I	No	No	No	10	360	0		13.42	4.26
PCE-5-twa	2500	Medium	>25%	1-4hr	I	No	Yes	No	8	480	0		15.55	1.91
AA-1-twa	3140	Medium	>25%	1-4hr	I	GV	No	No	20	480	2		0.09	5.68
AA-2-twa	3140	Medium	>25%	1-4hr	I	No	Yes	No	17	360	2		0.15	4.99
ACE-1-twa	24000	High	>25%	1-4hr	I	No	Yes	No	20	480	0		2.07	4.77
ACE-2-twa	24000	High	>25%	1-4hr	I	No	Yes	No	7	480	0		2.61	3.09
ACE-3-twa	24000	High	>25%	1-4hr	I	No	Yes	No	6	360	0		1.58	2.48
ACE-4-twa	24000	High	>25%	1-4hr	I	No	Yes	No	13	480	0		2.70	4.81
ACE-5-twa	24000	High	>25%	1-4hr	I	No	Yes	No	18	360	0		2.27	5.12
BMP-1-twa	14772	High	>25%	1-4hr	I	GV	No	No	41	240	4		5.02	3.75
CYC-1-twa	453	Low	>25%	1-4hr	I	No	Yes	No	8	480	0		2.65	1.63
ETEAM-60	24000	High	>25%	<15min	I	EV	Yes	No	7	250-450	2		0.23	2.68

ID	P75 (mg/m3)	P75 (ppm)	TRA value (mg/m3)	TRA value (ppm)	ratio P75/TRA	Revised setting (ind/pro) and PROC assignment	Revised RMM/OC/PPE assignment	Valid for TRA comparison
TCE-5-twa		7.22		3.00	2.41		RPE changed from Yes to No (no indication that measurements have been performed inside the mask)	Yes
PCE-1-twa		4.54		3.00	1.51			Yes
PCE-2-twa		20.27		1.25	16.22	contextual information indicates PROC7 is more appropriate than PROC10 (ECHA R12: task description is "spraying"; coding in Stoffenmanager is "Handling of liquids at high pressure resulting in substantial generation of mist of spray")		Yes
PCE-3-twa		1.65		3.00	0.55		RPE changed from Yes to No (no indication that measurements have been performed inside the mask)	Yes
PCE-4-twa		35.64		150.00	0.24			Yes
PCE-5-twa		24.05		7.50	3.21	contextual information indicates PROC7 is more appropriate than PROC10 (ECHA R12: task description is "spraying"; coding in Stoffenmanager is "Handling of liquids at high pressure resulting in substantial generation of mist of spray")		Yes
AA-1-twa		0.29		4.20	0.07	contextual information indicates PROC15 is more appropriate than PROC13 (ECHA R12: use of small quantities of chemicals)	RPE changed from Yes to No (no indication that measurements have been performed inside the mask)	Yes
AA-2-twa		0.44		3.00	0.15		RPE changed from Yes to No (no indication that measurements have been performed inside the mask)	Yes
ACE-1-twa		5.93		15.00	0.40		RPE changed from Yes to No (no indication that measurements have been performed inside the mask)	Yes
ACE-2-twa		5.58		15.00	0.37		RPE changed from Yes to No (no indication that measurements have been performed inside the mask)	Yes
ACE-3-twa		2.91		15.00	0.19		RPE changed from Yes to No (no indication that measurements have been performed inside the mask)	Yes
ACE-4-twa		7.78		15.00	0.52		RPE changed from Yes to No (no indication that measurements have been performed inside the mask)	Yes
ACE-5-twa		6.82		15.00	0.45		RPE changed from Yes to No (no indication that measurements have been performed inside the mask)	Yes
BMP-1-twa		12.23		21.00	0.58	contextual information indicates PROC15 is more appropriate than PROC13 (use of small quantities of chemicals)		Yes
CYC-1-twa		3.68		0.60	6.13			Yes
ETEAM-60		0.46		3.50	0.13			Yes

Reference	Additional info	ID	Category	Task description	Ind/Prof	PROC	Substance	CAS no	MW
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	ART data	ETEAM-65	liquids	Routine inspections of workers on a gasoline plant	Ind	2	Benzene	71-43-2	78.11
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	NIOSH (HETA 1997-0106-2770)	ETEAM-9585	liquids	raw material charging, product mixing, and dispensing into containers.	Ind	4	Ethyl Benzene	100-41-4	106.17
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	JOEH, 2013; 10(2)	ETEAM-9594	liquids	Placing and removing batches of tantalum "slugs," into a dipping tank	Ind	13	Isoamyl Acetate (IAA)	123-92-2	130.19
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	NIOSH (HETA 2004-0372-3054)	ETEAM-10113a	liquids	Extrusion of HDPE into flat sheets	Ind	14	Trichloroethylene	79-01-6	131.39
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	NIOSH (HETA 2004-0372-3054)	ETEAM-10113b	liquids	Extrusion of HDPE into flat sheets	Ind	14	Trichloroethylene	79-01-6	131.39
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	NIOSH (HETA 2004-0372-3054)	ETEAM-10117	liquids	Extrusion of HDPE into flat sheets	Ind	14	Trichloroethylene	79-01-6	131.39
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	NIOSH (HETA 2000-0410-2891)	ETEAM-10209a	liquids	Sealing covers to cushions by using a spray adhesive	Ind	7	1-Bromopropane	106-94-5	122.99
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	NIOSH (HETA 2000-0410-2891)	ETEAM-10209b	liquids	Sealing covers to cushions by using a spray adhesive	Ind	7	1-Bromopropane	106-94-5	122.99
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	NIOSH (HETA 1998-0153-2883)	ETEAM-10386	liquids	Sealing covers to cushions by using a spray adhesive	Ind	7	1-Bromopropane	106-94-5	122.99
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	NIOSH (HETA 1998-0153-2883)	ETEAM-10392	liquids	Sealing covers to cushions by using a spray adhesive	Ind	7	1-Bromopropane	106-94-5	122.99
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	NIOSH (HETA 1998-0153-2883)	ETEAM-10400	liquids	Sealing covers to cushions by using a spray adhesive	Ind	7	1-Bromopropane	106-94-5	122.99
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	NIOSH (HETA 1998-0153-2883)	ETEAM-10401	liquids	Sealing covers to cushions by using a spray adhesive	Ind	7	1-Bromopropane	106-94-5	122.99
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	NIOSH (HETA 1998-0153-2883)	ETEAM-10403	liquids	Sealing covers to cushions by using a spray adhesive	Ind	7	1-Bromopropane	106-94-5	122.99
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	NIOSH (HETA 2000-0374-2998)	ETEAM-10418	liquids	Cleaning and coating of fuel cells	Ind	7	Butan-2-one	78-93-3	72.11
SUVA report: 07.0324 and 08.0166	ETEAM reference: various	SUVA-1	liquids	Activities with small quantities of chemicals	Ind	15	Glutaraldehyde	111-30-8	100.12
SUVA report: 07.0324 and 08.0166	ETEAM reference: various	SUVA-2	liquids	Activities with small quantities of chemicals	Ind	15	Glutaraldehyde	111-30-8	100.12

ID	VP [Pa]	Fugacity	Conc (%)	Duration Category	Indoor/ Outdoor	Ventilation	LEV	RPE	n	Sample time (min)	<LOD	GM (mg/m3)	GM (ppm)	GSD
ETEAM-65	10000	High	1-5%	>4hr	O	Outdoors	No	No	19	60-225	0		0.01	3.51
ETEAM-9585	952	Medium	>25%	>4hr	I	EV	No	No	24	360-480	0		0.8	1.89
ETEAM-9594	530	Medium												
ETEAM-10113a	9900	Medium	>25%	>4hr	I	GV	No	No	137	227-766	0		31.3	1.50
ETEAM-10113b	9900	Medium	>25%	>4hr	I	GV	No	No	137	283-714	0		34	1.50
ETEAM-10117	9900	Medium												
ETEAM-10209a	14772	High	>25%	>4hr	I	GV	No	No	9	237-493	0		62.3	1.50
ETEAM-10209b	14772	High	>25%	>4hr	I	GV	No	No	34	296-498	0		18	1.40
ETEAM-10386	14772	High	>25%	>4hr	I	GV	Yes	No	7	484-492	0		17.48	1.41
ETEAM-10392	14772	High	>25%	>4hr	I	GV	Yes	No	11	375-481	0		28.59	1.57
ETEAM-10400	14772	High	>25%	>4hr	I	No	No	No	20	364-489	0		149.8	1.29
ETEAM-10401	14772	High	>25%	>4hr	I	No	No	No	15	126-488	0		188.89	1.23
ETEAM-10403	14772	High	>25%	>4hr	I	No	No	No	21	497-513	0		188.28	1.35
ETEAM-10418	10400	High	5-25%	>4hr	I	No	No	No	7	453-494	0		23.89	1.67
SUVA-1	70	Low	1-5%	>4hr	I	No	No	No	26	15-131 (mean > 30)	0		0.010	4.12
SUVA-2	70	Low	1-5%	>4hr	I	No	Yes	No	12	15-190 (mean>30)	0		0.013	4.16

ID	P75 (mg/m3)	P75 (ppm)	TRA value (mg/m3)	TRA value (ppm)	ratio P75/TRA	Revised setting (ind/pro) and PROC assignment	Revised RMM/OC/PPE assignment	Valid for TRA comparison
ETEAM-65		0.02		0.70	0.03	contextual information indicates PROC2 is more appropriate than PROC4 (ECHA R12: closed proces equipment; limited opportunity for exposure)		Yes
ETEAM-9585		1.23		6.00	0.20	contextual information indicates PROC4 is more appropriate than PROC5 (ECHA R12: no multistage proces; opportunity for exposure but no significant contact)		Yes
ETEAM-9594						measured data is provided for workers who conducted several different tasks; not possible to assign one PROC		No
ETEAM-10113a		41.00		35.00	1.17			Yes
ETEAM-10113b		45.30		35.00	1.29			Yes
ETEAM-10117						measured data is provided for workers who conducted several different tasks; not possible to assign one PROC		No
ETEAM-10209a		83.40		350.00	0.24		ventilation changed from EV to GV (information on ventilation does not justify EV (> 5 ach)); LEV changed from Yes to No (information in report indicates no or inefficient LEV)	Yes
ETEAM-10209b		22.10		350.00	0.06		ventilation changed from EV to GV (information on ventilation does not justify EV (> 5 ach)); LEV changed from Yes to No (information in report indicates no or inefficient LEV)	Yes
ETEAM-10386		22.07		17.50	1.26		ventilation changed from EV to GV (information on ventilation does not justify EV (> 5 ach))	Yes
ETEAM-10392		38.71		17.50	2.21		ventilation changed from EV to GV (information on ventilation does not justify EV (> 5 ach))	Yes
ETEAM-10400		230.63		500.00	0.46		LEV changed from Yes to No (information in report indicates no or inefficient LEV)	Yes
ETEAM-10401		217.38		500.00	0.43		LEV changed from Yes to No (information in report indicates no or inefficient LEV)	Yes
ETEAM-10403		230.63		500.00	0.46		LEV changed from Yes to No (information in report indicates no or inefficient LEV)	Yes
ETEAM-10418		33.73		300.00	0.11			Yes
SUVA-1		0.03		1.00	0.03			Yes
SUVA-2		0.03		0.10	0.34			Yes

Reference	Additional info	ID	Category	Task description	Ind/Prof	PROC	Substance	CAS no	MW
SUVA report: 10.0095 and 11.0153	ETEAM reference: various	SUVA-3	liquids	Activities with small quantities of chemicals	Ind	15	Glutaraldehyde	111-30-8	100.12
SUVA report: 10.0095 and 11.0153	ETEAM reference: various	SUVA-4	liquids	Activities with small quantities of chemicals	Ind	15	Glutaraldehyde	111-30-8	100.12
SUVA report: 10.0162/5.0 and 09.0050/5.0	ETEAM reference 10787	SUVA-6	liquids	Polyester casting machine / production	Ind	24	Heptane isomere (without n-heptane)	142-82-5	100.2
SUVA report: 07.0306/5.0	ETEAM reference 10796/ 10797	SUVA-7	liquids	Batch-wise production of coatings at painting stations	Ind	5	Toluene	108-88-3	92.1
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	ART data	ETEAM-57	liquids	Bottom loading of tank-trucks with gasoline	Ind	8b	Benzene	71-43-2	78.11
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	ART data	ETEAM-58	liquids	Top-loading of methylethylketon in tanker-trucks	Ind	8b	Butan-2-one	78-93-3	72.11
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	ART data	ETEAM-59	liquids	Top-loading of gasoline in tanker-trucks	Ind	8b	Benzene	71-43-2	78.11
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	ART data	ETEAM-63	liquids	Filling of drums with gasoline	Ind	8b	Benzene	71-43-2	78.11
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	ART data	ETEAM-67	liquids	Refueling of vehicles with gasoline	Pro	8b	Benzene	71-43-2	78.11
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	ART data	ETEAM-68	liquids	Collection of samples of gasoline	Ind	9	Benzene	71-43-2	78.11
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	ART data	ETEAM-71	liquids	Laminating bumpers and panels using either soft rollers or brushes	Ind	10	Styrene	100-42-5	104.15
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	BAUA data (study F1660; ETEAM codes 6911-6961)	ETEAM-75	liquids	Cleaning of glasses in opticians shops	Pro	19	Ethanol	64-17-5	46.07
Concawe report 13-18 (suppl. Table S1.12)	Auffarth	ETEAM-86	liquids	Draining of fuel from tank of cars to be scrapped (pre-1.1.2000)	Pro	8b	Benzene	71-43-2	78.11
Concawe report 13-18 (suppl. Table S1.12)	Auffarth	ETEAM-87	liquids	Draining of fuel from tank of cars to be scrapped (post-1.1.2000)	Pro	8b	Benzene	71-43-2	78.11
Lee et.al, Ann Occup Hyg, 2009; 53(5): 463-474		ETEAM-9570	liquids	Cleaning, printing and printpreparation in a printing shop	Pro	10	Acetone	67-64-1	58.08
Lee et.al, Ann Occup Hyg, 2009; 53(5): 463-474		ETEAM-9573	liquids	Cleaning, printing and printpreparation in a printing shop	Pro	10	Propan-2-ol	67-63-0	60.1

ID	VP [Pa]	Fugacity	Conc (%)	Duration Category	Indoor/ Outdoor	Ventilation	LEV	RPE	n	Sample time (min)	<LOD	GM (mg/m3)	GM (ppm)	GSD
SUVA-3	70	Low	1-5%	>4hr	I	No	No	No	17	26-120	2		0.003	4.60
SUVA-4	70	Low	1-5%	>4hr	I	No	Yes	No	9	119-188	0		0.002	2.55
SUVA-6	15700	High												
SUVA-7	3089	Medium	>25%	>4hr	I	No	No	No	6	94-142	0		55.83	1.55
ETEAM-57	10000	High	1-5%	>4hr	O	Outdoors	No	No	29	23-300 (mean>30)	0		0.06	2.80
ETEAM-58	10400	High	>25%	1-4hr	O	Outdoors	Yes	No	8	150-450	0		1.04	3.33
ETEAM-59	10000	High	1-5%	>4hr	O	Outdoors	No	No	24	100-300	0		0.28	3.36
ETEAM-63	10000	High	1-5%	>4hr	O	Outdoors	No	No	23	15-600 (mean>30)	0		0.2	2.26
ETEAM-67	10000	High	1-5%	>4hr	O	Outdoors	No	No	88	10-500 (mean>30)	0		0.04	4.91
ETEAM-68	10000	High	1-5%	>4hr	O	Outdoors	No	No	7	15-60 (mean>30)	0		0.01	7.36
ETEAM-71	667	Medium	>25%	>4hr	I	GV	No	No	9	17-250 (mean>30)	0		13.6	2.22
ETEAM-75	5726	Medium	>25%	>4hr	I	GV	No	No	14	120-255	0		23.91	2.84
ETEAM-86	10000	High	1-5%	>4hr	I	GV	No	No	19	140 min to 417 min	0		0.16	2.677
ETEAM-87	10000	High	<1%	>4hr	I	GV	No	No	16	126 min to 444 min	0		0.0646	3.109
ETEAM-9570	24000	High	>25%	1-4hr	I	GV	No	No	30	15-82 (mean>30)	4		31.46	2.09
ETEAM-9573	4400	Medium	>25%	1-4hr	I	GV	No	No	73	15-148 (mean>30)	0		23.76	1.48

ID	P75 (mg/m3)	P75 (ppm)	TRA value (mg/m3)	TRA value (ppm)	ratio P75/TRA	Revised setting (ind/pro) and PROC assignment	Revised RMM/OC/PPE assignment	Valid for TRA comparison
SUVA-3		0.01		1.00	0.01			Yes
SUVA-4		0.00		0.10	0.03			Yes
SUVA-6						measured data is provided for workers who conducted several different tasks; not possible to assign one PROC		No
SUVA-7		75.02		50.00	1.50	contextual information indicates PROC5 is more appropriate than PROC10 (ECHA R12: primarily mixing, limited coating)		Yes
ETEAM-57		0.12		3.50	0.03			Yes
ETEAM-58		2.33		6.30	0.37		LEV changed from No to Yes (vapour recovery system)	Yes
ETEAM-59		0.64		3.50	0.18			Yes
ETEAM-63		0.34		3.50	0.10			Yes
ETEAM-67		0.11		7.00	0.02			Yes
ETEAM-68		0.03		7.00	0.00			Yes
ETEAM-71		23.27		35.00	0.66			Yes
ETEAM-75		48.32		70.00	0.69		duration changed from 1-4hr to >4hr (inappropriate use of duration factor)	Yes
ETEAM-86		0.31		35.00	0.01	contextual information indicates PROC8b is more appropriate than PROC9 (ECHA R12: dedicated equipment but no dedicated filling line).		Yes
ETEAM-87		0.14		17.50	0.01	contextual information indicates PROC8b is more appropriate than PROC9 (ECHA R12: dedicated equipment but no dedicated filling line).		Yes
ETEAM-9570		51.78		210.00	0.25	contextual information indicates professional use is more appropriate for this type of activity and setting than industrial use		Yes
ETEAM-9573		30.88		42.00	0.74	contextual information indicates professional use is more appropriate for this type of activity and setting than industrial use		Yes

Reference	Additional info	ID	Category	Task description	Ind/Prof	PROC	Substance	CAS no	MW
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	NIOSH (HETA 1997-0106-2770)	ETEAM-9591	liquids	Manual bucket washing/cleaning	Ind	19	Butan-2-one	78-93-3	72.11
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	NIOSH (HETA 96-0145-2684)	ETEAM-9830	liquids	Rigid plastic articles being manufactured into items including figurines, wall plaques, boxes, and picture frames, using polyester resin	Pro	9	Styrene	100-42-5	104.15
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	NIOSH (HETA 1995-0209-2515)	ETEAM-9879	liquids	Gluing insoles in shoes	Ind	10	Heptane	142-82-5	100.2
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	NIOSH (HETA 1994-0220-2526)	ETEAM-9885	liquids	Fuelling by service station attendants at two service stations	Pro	8b	Methyl tert-Butyl ether	1634-04-4	88.15
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	NIOSH (HETA 99-0163-2771)	ETEAM-9899	liquids	Drywall hangers using adhesive to affix drywall sheets to wooden wall studs, joists, and rafters in residential homes	Pro	10	N-hexane	110-54-3	86.18
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	NIOSH (HETA 2003-0203-2952)	ETEAM-10368	liquids	Production of direct mail flyers and providing printing, binding, and distribution services	Ind	8a	Trichloroethylene	79-01-6	131.39
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	NIOSH (HETA 2002-0379-2901)	ETEAM-10380	liquids	Flexographic printing for consumer labelling by press operators, rewinder operators, and press assistants (mainly transfer of inks and print additives)	Ind	8a	Dimethylaminoethanol (DMAE)	108-01-0	89.14
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	NIOSH (HETA 2002-0379-2901)	ETEAM-10385	liquids	Flexographic printing for consumer labelling by press operators, rewinder operators, and press assistants (mainly transfer of inks and print additives)	Ind	8a	Dimethylaminoethanol (DMAE)	108-01-0	89.14
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	NIOSH (HETA 2000-0374-2998)	ETEAM-10411	liquids	Manufacture of aircraft fuel tanks and other products by manual assembly of thin layers of fabric over or inside of a pre-formed mold, using polyurethane adhesives (manually applied by brush or sprayed)	Ind	10	Acetone	67-64-1	58.08
SUVA database report: 05.0223/5.0	ETEAM reference 10774	SUVA-8	liquids	Transfer of gasoline. Emptying tanker in gas station	Ind	8b	Pentane	109-66-0	72
SUVA database report: 06.0226/5.4	ETEAM reference 10775/ 10782/ 10803/ 10809	SUVA-9	liquids	Production of gift-wrapping paper using printing presses	Ind	10	Ethanol	64-17-5	46.07
Lee et.al; Ann Work Exp Health 2019; 63(2): 218-229	additional ES info obtained from Emily Lee	NIOSH-22	liquids	Batch-making	Ind	5	N-butyl acetate bulk	123-86-4	116.16
Lee et.al; Ann Work Exp Health 2019; 63(2): 218-229	additional ES info obtained from Emily Lee	NIOSH-37	liquids	Batch-making	Ind	5	Ethyl Benzene	100-41-4	106.17
Lee et.al; Ann Work Exp Health 2019; 63(2): 218-229	additional ES info obtained from Emily Lee	NIOSH-28	liquids	Aircraft Refurbishment	Ind	10	PCBTF	98-56-6	180.56
Lee et.al; Ann Work Exp Health 2019; 63(2): 218-229	additional ES info obtained from Emily Lee	NIOSH-41	liquids	Bucket washing	Ind	10	Acetone	67-64-1	58.1
Lee et.al; Ann Work Exp Health 2019; 63(2): 218-229	additional ES info obtained from Emily Lee	NIOSH-48	liquids	Glue application-Outside	Ind	10	Styrene	100-42-5	104.15

ID	VP [Pa]	Fugacity	Conc (%)	Duration Category	Indoor/ Outdoor	Ventilation	LEV	RPE	n	Sample time (min)	<LOD	GM (mg/m3)	GM (ppm)	GSD
ETEAM-9591	10400	High	5-25%	>4hr	I	EV	Yes	No	18	360-480	0		3.3	4.31
ETEAM-9830	666	Medium												
ETEAM-9879	5330	Medium	>25%	>4hr	I	No	No	No	7	510	0		186.71	1.43
ETEAM-9885	33000	High	5-25%	1-4hr	O	Outdoors	Yes	No	10	171-454	0		0.365	2.43
ETEAM-9899	20060	High	>25%	>4hr	I	GV	No	No	6	298-354	0		16.95	1.47
ETEAM-10368	9900	Medium												
ETEAM-10380	816	Medium	>25%	>4hr	I	GV	Yes	No	19	250-756	5		0.195	2.19
ETEAM-10385	816	Medium	>25%	>4hr	I	GV	Yes	No	13	291-611	0		0.818	1.39
ETEAM-10411	24000	High	>25%	>4hr	I	No	No	No	29	279-492	0		12.07	2.84
SUVA-8	68500	High	1-5%	>4hr	O	Outdoors	No	No	6	22-131 (mean>30)	0		35.99	1.48
SUVA-9	5726	High	>25%	>4hr	I	No	Yes	No	8	96-273	0		40.37	1.36
NIOSH-22	1120	Medium	>25%	>4hr	I	GV	No	No	8	258-417	No info		13.73	1.62
NIOSH-37	952	Medium	>25%	>4hr	I	GV	No	No	24	480	No info		0.79	1.91
NIOSH-28	1000	Medium	>25%	>4hr	I	GV	Yes	No	21	75-407	No info		1.84	3.19
NIOSH-41	24000	High												
NIOSH-48	667	Medium	>25%	>4hr	I	GV	No	No	6	450-627	No info		20.11	1.47

ID	P75 (mg/m3)	P75 (ppm)	TRA value (mg/m3)	TRA value (ppm)	ratio P75/TRA	Revised setting (ind/pro) and PROC assignment	Revised RMM/OC/PPE assignment	Valid for TRA comparison
ETEAM-9591		8.83		9.00	0.98	contextual information indicates PROC19 is more appropriate than PROC8b (ECHA R12: no transfer task; mainly manual cleaning, intimate contact)		Yes
ETEAM-9830						different tasks and very unclear descriptions for ventilation and LEV; not possible to generate a TRA estimate		No
ETEAM-9879		237.82		50.00	4.76		ventilation changed from GV to No (information in report indicates inefficient ventilation); LEV changed from Yes to No (information in report indicates no or inefficient LEV)	Yes
ETEAM-9885		0.66		3.15	0.21		duration changed from >4hr to 1-4hr (task not performed during full shift); LEV changed from No to Yes (vapour recovery system)	Yes
ETEAM-9899		21.90		350.00	0.06			Yes
ETEAM-10368						measured data is provided for workers who conducted several different tasks; not possible to assign one PROC		No
ETEAM-10380		0.33		3.50	0.09	contextual information indicates PROC8a is more appropriate than PROC8b (ECHA R12: mainly transfer to open containers, not dedicated)		Yes
ETEAM-10385		1.02		3.50	0.29	contextual information indicates PROC8a is more appropriate than PROC8b (ECHA R12: mainly transfer to open containers, not dedicated)		Yes
ETEAM-10411		24.37		250.00	0.10			Yes
SUVA-8		46.87		21.00	2.23	contextual information indicates PROC8b is more appropriate than PROC8a (ECHA R12: transfer, dedicated equipment)		Yes
SUVA-9		49.67		25.00	1.99		fugacity changed from medium to high (elevated temperature)	Yes
NIOSH-22		19.00		35.00	0.54		ventilation changed from EV to GV (information on ventilation does not justify EV (> 5 ach))	Yes
NIOSH-37		1.23		35.00	0.04			Yes
NIOSH-28		4.01		3.50	1.15		ventilation changed from EV to GV (information on ventilation does not justify EV (> 5 ach))	Yes
NIOSH-41						measured data is provided for workers who conducted several different tasks; not possible to assign one PROC		No
NIOSH-48		26.08		35.00	0.75		concentration changed from 1-5% to >25% (lay-up activity; concentration typical in range 30-40%)	Yes

Reference	Additional info	ID	Category	Task description	Ind/Prof	PROC	Substance	CAS no	MW
Lee et.al; Ann Work Exp Health 2019; 63(2): 218-229	additional ES info obtained from Emily Lee	NIOSH-53	liquids	Blade Finishing and Assembly	Ind	10	Styrene	100-42-5	104.15
Lee et.al; Ann Work Exp Health 2019; 63(2): 218-229	additional ES info obtained from Emily Lee	NIOSH-57	liquids	Printing task	Ind	10	Isopropanol	67-63-0	60.09
Lee et.al; Ann Work Exp Health 2019; 63(2): 218-229	additional ES info obtained from Emily Lee	NIOSH-58	liquids	Print Process	Ind	10	Isopropanol	67-63-0	60.09
Lee et.al; Ann Work Exp Health 2019; 63(2): 218-229	additional ES info obtained from Emily Lee	NIOSH-32	liquids	Sample preparation in histology lab	Ind	15	Ethanol	64-17-5	46.07
Lee et.al; Ann Work Exp Health 2019; 63(2): 218-229	additional ES info obtained from Emily Lee	NIOSH-33	liquids	Sample prep in pathology lab	Ind	15	Ethanol	64-17-5	46.07
Lee et.al; Ann Work Exp Health 2019; 63(2): 218-229	additional ES info obtained from Emily Lee	NIOSH-35	liquids	Sample preparation in pathology lab –Physician Assistant	Ind	15	Formaldehyde	50-00-0	30.03
Lee et.al; Ann Work Exp Health 2019; 63(2): 218-229	additional ES info obtained from Emily Lee	NIOSH-30	liquids	Denture Repairer	Pro	15	Methylmethacrylate	80-62-6	100.12
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	ART data	ETEAM-2	solids	Spraying of antifouling paint to ship hulls	Pro	11	Copper (I) oxide	1317-38-0	79.5
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	ART data	ETEAM-42	solids	Scooping of coal with scoops and brooms	Pro	19	Inhalable dust		
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	ART data	ETEAM-46	solids	Tabletting process in the pharmaceutical industry	Ind	14	Amoxicillin	26787-78-0	418
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	ART data	ETEAM-54	solids	Unloading of a ship hold in the transshipment industry (using a bobcat or truck)	Ind	8a	Aluminium oxide	1344-28-1	102
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	ETEAM, 2017, solids	ETEAM-9941	solids	Ccleaning, repair, painting, and final shipment of metallic castings	Ind	24	Copper	7440-50-8	63.5
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	ETEAM, 2017, solids	ETEAM-10043	solids	Ccleaning, repair, painting, and final shipment of metallic castings	Ind	24	Aluminium	7429-90-5	26.98
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	NIOSH (HETA 1993-0035-2481)	ETEAM-10110	solids	Welding mild steel and painting welded structures during the manufacture of pre-engineered steel buildings	Ind	25	Iron Oxide	1309-37-1	159.7
SUVA database report: 12.0113/2.0	ETEAM reference 10743/10744	SUVA-10	solids	Turbines made of alloyed steel are tested for imbalances. Detected imbalances are corrected by removal of material with grinding	Ind	24	Chromium	7440-47-3	52

ID	VP [Pa]	Fugacity	Conc (%)	Duration Category	Indoor/ Outdoor	Ventilation	LEV	RPE	n	Sample time (min)	<LOD	GM (mg/m3)	GM (ppm)	GSD
NIOSH-53	667	Medium	>25%	1-4hr	I	GV	No	No	12	568-686	No info		5.91	1.80
NIOSH-57	4400	Medium	>25%	>4hr	I	GV	No	No	13	320-572	No info		23.68	1.44
NIOSH-58	4400	Medium	>25%	>4hr	I	GV	No	No	17	193-517	No info		13.88	3.01
NIOSH-32	5726	Medium	>25%	15min-1hr	I	GV	No	No	8	225-387	No info		4.30	2.07
NIOSH-33	5726	Medium	>25%	1-4hr	I	GV	No	No	15	424-485	No info		2.40	1.88
NIOSH-35	41	Low	>25%	1-4hr	I	GV	Yes	No	10	424-485	No info		0.02	1.96
NIOSH-30	3700	Medium	>25%	1-4hr	I	GV	No	No	10	199-502	No info		0.59	1.86
ETEAM-2		Medium	>25%	>4hr	O	Outdoors	No	No	21	76-346	2	1.15		3.15
ETEAM-42		Medium	>25%	>4hr	I	No	No	No	8	104-242	0	2.18		1.45
ETEAM-46		Medium	>25%	>4hr	I	EV	No	No	11	10-129 (mean>30)	0	0.99		2.24
ETEAM-54		High												
ETEAM-9941		Low	1-5%	>4hr	I	GV	No	No	15	450-481	0	0.04		1.90
ETEAM-10043		Low	1-5%	>4hr	I	GV	No	No	15	450-481	0	0.09		2.06
ETEAM-10110		Low	>25%	>4hr	I	GV	No	No	6	394-458	0	2.604		1.433
SUVA-10		Low	5-25%	>4hr	I	No	Yes	No	6	74-118	0	0.03		1.78

ID	P75 (mg/m3)	P75 (ppm)	TRA value (mg/m3)	TRA value (ppm)	ratio P75/TRA	Revised setting (ind/pro) and PROC assignment	Revised RMM/OC/PPE assignment	Valid for TRA comparison
NIOSH-53		8.79		21.00	0.42		duration changed from 15min-1hr to 1-4hr (exposed time >> 50 min due to ventilation conditions)	Yes
NIOSH-57		30.28		35.00	0.87			Yes
NIOSH-58		29.18		35.00	0.83			Yes
NIOSH-32		7.02		1.40	5.01	contextual information indicates industrial use is more appropriate for this type of activity and setting than professional use; contextual information indicates PROC15 is more appropriate than PROC13 (use of small quantities of chemicals)		Yes
NIOSH-33		3.68		4.20	0.88	contextual information indicates industrial use is more appropriate for this type of activity and setting than professional use; contextual information indicates PROC15 is more appropriate than PROC13 (use of small quantities of chemicals)		Yes
NIOSH-35		0.04		0.21	0.19	contextual information indicates industrial use is more appropriate for this type of activity and setting than professional use; contextual information indicates PROC15 is more appropriate than PROC13 (use of small quantities of chemicals)		Yes
NIOSH-30		0.90		4.20	0.21		duration changed from 15min-1hr to 1-4hr (exposed time >> 40 min due to ventilation conditions)	Yes
ETEAM-2	2.49		140		0.02			Yes
ETEAM-42	2.80		5		0.56	contextual information indicates professional use is more appropriate for this type of activity and setting than industrial use; contextual information indicates PROC19 is more appropriate than PROC8a (ECHA R12: transfer task, however with limited quantities; intimate contact)		Yes
ETEAM-46	1.70		1.5		1.13			Yes
ETEAM-54						Worksituation inside of a ship's hold resembles confined space conditions; extremely high (unrealistic) level of dust exposure; comparison of measured		No
ETEAM-9941	0.06		0.14		0.41		concentration changed from >25% to 1-5% (conservative: low concentration in alloy assumed)	Yes
ETEAM-10043	0.14		0.14		1.01		concentration changed from >25% to 1-5% (conservative: low concentration in alloy assumed)	Yes
ETEAM-10110	3.320		3.5		0.95			Yes
SUVA-10	0.037		0.12		0.31			Yes

Reference	Additional info	ID	Category	Task description	Ind/Prof	PROC	Substance	CAS no	MW
SUVA database report: 11.0226/6.10	ETEAM reference 10672/ 10694/ 10790/ 10801/ 10812/ 10825	SUVA-11	liquids	Pathology work. Organs washing and cutting in an autopsy lab	Ind	15	Formaldehyde	50-00-0	30
SUVA database report: 07.0274/5.0	ETEAM reference 10708/ 10709	SUVA-12	liquids	Batch-wise polymer granule production (dissolving in solvent mixture distilling the solution, grounding, sieving and packing in bags)	Ind	3	Trichloroethylene	79-01-6	131.4
SUVA database report: 02.0372/6.4	ETEAM reference 10671/ 10713/ 10714	SUVA-13	liquids	Coating of furniture parts	Ind	7	n-Butyl acetate	123-86-4	116.2
Tongeren et.al; Ann Work Exp Health 2017; 61(8): 921-938	BAUA-ITEM data (study F2137)	ETEAM-10940	solids	Spray painting in the shipyard industry	Pro	11	Copper (I) oxide	1317-38-0	79.5
Lee et.al; Ann Work Exp Health 2019; 63(2): 218-229	additional ES info obtained from Emily Lee	NIOSH-9	solids	Casting	Ind	23	Tin	7440-31-5	118.69
Lee et.al; Ann Work Exp Health 2019; 63(2): 218-229	additional ES info obtained from Emily Lee	NIOSH-11	solids	Powder sieving	Ind	8b	Tin	7440-31-5	118.69
Ishii et.al; J Chem Health Saf 2017; 24(1): 8-20		ISHII-1	liquids	Spray painting, air gun spraying	Ind	7	Ethyl Benzene	100-41-4	106.2
Ishii et.al; J Chem Health Saf 2017; 24(1): 8-20		ISHII-2	liquids	Spray painting, air gun spraying	Ind	7	Ethyl Benzene	100-41-4	106.2
Ishii et.al; J Chem Health Saf 2017; 24(1): 8-20		ISHII-3	liquids	Spray painting, air gun spraying	Ind	7	Ethyl Benzene	100-41-4	106.2
Ishii et.al; J Chem Health Saf 2017; 24(1): 8-20		ISHII-4	liquids	Spray painting, air gun spraying	Ind	7	Ethyl Benzene	100-41-4	106.2
Ishii et.al; J Chem Health Saf 2017; 24(1): 8-20		ISHII-5	liquids	Roller painting, touch up painting	Ind	10	Ethyl Benzene	100-41-4	106.2
Ishii et.al; J Chem Health Saf 2017; 24(1): 8-20		ISHII-6	liquids	Roller painting, touch up painting	Ind	10	Ethyl Benzene	100-41-4	106.2
Ishii et.al; J Chem Health Saf 2017; 24(1): 8-20		ISHII-7	liquids	Roller painting, touch up painting	Ind	10	Ethyl Benzene	100-41-4	106.2
Jankowska et.al; Int J Occup Saf Ergon 2015; 21(4): 471-479	Jankowska, 2015	JANKO-1	liquids	transfer from the anaesthetic apparatus to the lungs	Pro	9	Sevoflurane	28523-86-6	200
Jankowska et.al; Int J Occup Saf Ergon 2015; 21(4): 471-479	Jankowska, 2015	JANKO-2	liquids	transfer from the anaesthetic apparatus to the lungs	Pro	9	Sevoflurane	28523-86-6	200
Jankowska et.al; Int J Occup Saf Ergon 2015; 21(4): 471-479	Jankowska, 2015	JANKO-3	liquids	transfer from the anaesthetic apparatus to the lungs	Pro	9	Sevoflurane	28523-86-6	200

ID	VP [Pa]	Fugacity	Conc (%)	Duration Category	Indoor/ Outdoor	Ventilation	LEV	RPE	n	Sample time (min)	<LOD	GM (mg/m3)	GM (ppm)	GSD
SUVA-11	41	Low	>25%	>4hr	I	No	No	No	6	14-104 (mean>30)	0		0.45	2.56
SUVA-12	9900	Medium	>25%	>4hr	I	No	No	No	6	75-140	0		4.35	2.270
SUVA-13	1120	Medium	>25%	>4hr	I	No	Yes	No	6	72-125	0		19.68	1.410
ETEAM-10940		High	>25%	>4hr	I	GV	Yes	No	6	15-60 (mean>30)	0	7.010		3.520
NIOSH-9		Medium	>25%	>4hr	I	GV	No	No	6	330	No info	0.03		5.1
NIOSH-11		Medium	>25%	>4hr	I	GV	No	No	7	330	No info	0.22		4.35
ISHII-1	952	Medium	>25%	>4hr	I	No	Yes	No	10	~480	0		3.11	2.15
ISHII-2	952	Medium	5-25%	>4hr	I	No	Yes	No	10	~480	0		3.11	2.15
ISHII-3	952	Medium	5-25%	>4hr	I	GV	No	No	11	~480	0		15.1	2.95
ISHII-4	952	Medium	1-5%	>4hr	O	Outdoors	No	No	9	~480	0		21.81	3.167
ISHII-5	952	Medium	1-5%	>4hr	O	Outdoors	No	No	11	~480	0		4.71	3.84
ISHII-6	952	Medium	1-5%	>4hr	I	GV	No	No	12	~480	0		17.24	2.9
ISHII-7	952	Medium	5-25%	>4hr	I	GV	No	No	9	~480	0		21.72	2.22
JANKO-1	20932	High	1-5%	1-4hr	I	GV	Yes	No	41	360	0			
JANKO-2	20932	High	1-5%	1-4hr	I	GV	Yes	No	29	360	0			
JANKO-3	20932	High	1-5%	1-4hr	I	GV	No	No	56	360	0			

ID	P75 (mg/m3)	P75 (ppm)	TRA value (mg/m3)	TRA value (ppm)	ratio P75/TRA	Revised setting (ind/pro) and PROC assignment	Revised RMM/OC/PPE assignment	Valid for TRA comparison
SUVA-11		0.85		5.00	0.17			Yes
SUVA-12		7.56		10.00	0.76	contextual information indicates PROC3 is more appropriate than PROC4 (ECHA R12: closed batch proces)	LEV changed from Yes to No (information in report indicates no or inefficient LEV)	Yes
SUVA-13		24.80		12.50	1.98			Yes
ETEAM-10940	16.370		28		0.58		fugacity assumed high (spraying; solid in liquid)	Yes
NIOSH-9	0.09		2.10		0.04			Yes
NIOSH-11	0.59		0.70		0.84			Yes
ISHII-1		5.21		12.50	0.42			Yes
ISHII-2		5.21		7.50	0.69			Yes
ISHII-3		31.31		105.00	0.30			Yes
ISHII-4		47.43		35.00	1.36			Yes
ISHII-5		11.66		7.00	1.67			Yes
ISHII-6		35.33		7.00	5.05			Yes
ISHII-7		37.18		21.00	1.77			Yes
JANKO-1	12.3	1.50		4.20	0.36	contextual information indicates PROC9 is more appropriate than PROC8a (ECHA R12: transfer, but limited quantities; dedicated system)		Yes
JANKO-2	19.6	2.40		4.20	0.57	contextual information indicates PROC9 is more appropriate than PROC8a (ECHA R12: transfer, but limited quantities; dedicated system)		Yes
JANKO-3	10.93	1.34		21.00	0.06	contextual information indicates PROC9 is more appropriate than PROC8a (ECHA R12: transfer, but limited quantities; dedicated system)		Yes

Reference	Additional info	ID	Category	Task description	Ind/Prof	PROC	Substance	CAS no	MW
Jankowska et.al; Int J Occup Saf Ergon 2015; 21(4): 471-479	Jankowska, 2015	JANKO-4	liquids	transfer from the anaesthetic apparatus to the lungs	Pro	9	Sevoflurane	28523-86-6	200
Jankowska et.al; Int J Occup Saf Ergon 2015; 21(4): 471-479	Jankowska, 2015	JANKO-5	liquids	use in operating rooms	Pro	2	Sevoflurane	28523-86-6	200
Landberg et.al; Ann Work Exp Health 2019; 63(1); 68-76	Safety Science 2018; 109: 412-420	LANDB-1	liquids	Spray painting - Painting locomotive	Ind	7	Hexamethylene diisocyanate	822-06-0	168.2
Landberg et.al; Ann Work Exp Health 2019; 63(1); 68-76	Safety Science 2018; 109: 412-420	LANDB-2	liquids	Plastic moulding industry - Rolling	Ind	10	Styrene	100-42-5	104.2
Landberg et.al; Ann Work Exp Health 2019; 63(1); 68-76	Safety Science 2018; 109: 412-420	LANDB-3	liquids	Plastic moulding industry - Spraying	Ind	7	Styrene	100-42-5	104.2
Hofstetter et.al; Ann Occup Hyg 2013; 57(2): 210-220		HOFST-2	liquids	Spray painting	Ind	7	Toluene	108-88-3	92.1
Hammond et.al; Ann Occup Hyg 2011; 55(6): 591-600	from Spinazze et.al; Ann Work Exp Health 2017; 61(3): 284-298	HAMMO-1	liquids	Gel coating	Ind	7	Styrene	100-42-5	104.2
Hammond et.al; Ann Occup Hyg 2011; 55(6): 591-600	from Spinazze et.al; Ann Work Exp Health 2017; 61(3): 284-298	HAMMO-3	liquids	Vacuum injection into mold	Ind	3	Styrene	100-42-5	104.2
Carlo et.al; CDCP/NIOSH 2007; report EPHB 306-16a	from Spinazze et.al; Ann Work Exp Health 2017; 61(3): 284-298	CARLO-1	liquids	Boat manufacturing - hull and deck lamination	Ind	10	Styrene	100-42-5	104.2
Carlo et.al; CDCP/NIOSH 2007; report EPHB 306-16a	from Spinazze et.al; Ann Work Exp Health 2017; 61(3): 284-298	CARLO-2	liquids	Boat manufacturing - small part lamination	Ind	10	Styrene	100-42-5	104.2
Angelini et.al; PLOS one, 10 February 2016		MANE-11	liquids	weighing activity in fragrances/flavour industry	Ind	8b	Dimethyl sulphide	75-18-3	62.13
CONCAWE 01/06 Appendix 4: reported in Concawe report 18-13 supplementary table S1.3	Gas oil	Con01/06-4	liquids	Driver of road tanker with unloading	Pro	8b	Gas oil	64741-43-1	170.3
CONCAWE 06/07 Appendix 4, reported in Concawe report 18-13 supplementary table S1.17	Kerosine	Con06/07-2	liquids	Plane refueling - full shift	Pro	8b	Kerosine	8008-20-6	128.2
CONCAWE 06/07 Appendix 4, reported in Concawe report 18-13 supplementary table S1.17	Kerosine	Con06/07-3	liquids	Tanker driver loading and unloading full shift	Pro	8b	Kerosine	8008-20-6	128.2
CONCAWE 06/07 Appendix 4, reported in Concawe report 18-13 supplementary table S1.17	Kerosine	Con06/07-4	liquids	Tanker driver loading and unloading short term	Pro	8b	Kerosine	8008-20-6	128.2
CONCAWE 06/07 Appendix 4, reported in Concawe report 18-13 supplementary table S1.17	Kerosine	Con06/07-5	liquids	maintenance worker	Pro	8a	Kerosine	8008-20-6	128.2

ID	VP [Pa]	Fugacity	Conc (%)	Duration Category	Indoor/ Outdoor	Ventilation	LEV	RPE	n	Sample time (min)	<LOD	GM (mg/m3)	GM (ppm)	GSD
JANKO-4	20932	High	1-5%	1-4hr	I	GV	No	No	44	360	0			
JANKO-5	20932	High	1-5%	1-4hr	I	GV	Yes	No	42	360	0			
LANDB-1	1	Low												
LANDB-2	667	Medium												
LANDB-3	667	Medium												
HOFST-2	3089	Medium	5-25%	<15min	I	GV	No	No	11	240	0		8.2	1.20
HAMMO-1	667	Medium	>25%	>4hr	I	GV	No	No	19	45	0		66	2.60
HAMMO-3	667	Medium	>25%	>4hr	I	GV	No	No	21	120	0		1.8	1.50
CARLO-1	667	Medium	>25%	15min-1hr	I	GV	No	No	11	~60	0		13.01	1.28
CARLO-2	667	Medium	>25%	15min-1hr	I	GV	No	No	8	~60	0		11.55	1.28
MANE-11	52300	High	>25%	>4hr	I	EV	No	No	9	42-58 (mean>30)	0		3.08	3.66
Con01/06-4	40	Low	>25%	1-4hr	O	Outdoors	No	No	6	330min - 604mins	0		0.17	2.60
Con06/07-2	370	Low	>25%	>4hr	O	Outdoors	No	No	55	120min - 757min	0		0.10	2.90
Con06/07-3	370	Low	>25%	1-4hr	O	Outdoors	No	No	32	266min-532min	1		0.67	4.59
Con06/07-4	370	Low	>25%	15min-1hr	O	Outdoors	No	No	16	14min-64min	1		0.36	6.10
Con06/07-5	370	Low	>25%	>4hr	O	Outdoors	No	No	6	120min-531min	0		0.39	2.29

ID	P75 (mg/m3)	P75 (ppm)	TRA value (mg/m3)	TRA value (ppm)	ratio P75/TRA	Revised setting (ind/pro) and PROC assignment	Revised RMM/OC/PPE assignment	Valid for TRA comparison
JANKO-4	11.18	1.37		21.00	0.07	contextual information indicates PROC9 is more appropriate than PROC8a (ECHA R12: transfer, but limited quantities; dedicated system)		Yes
JANKO-5	2.69	0.33		0.84	0.39			Yes
LANDB-1						insufficient information to generate TRA estimate; original authors had no longer access to their detailed survey notes		No
LANDB-2						insufficient information to generate TRA estimate; original authors had no longer access to their detailed survey notes		No
LANDB-3						insufficient information to generate TRA estimate; original authors had no longer access to their detailed survey notes		No
HOFST-2		9.22		10.50	0.88	contextual information indicates industrial use is more appropriate for this type of activity and setting than professional use; contextual information indicates PROC7 is more appropriate than PROC11 (ECHA R12: industrial spraying)		Yes
HAMMO-1		125.70		175.00	0.72		duration changed from 15min-1hr to >4hr (incorrect adjustment of time; sampling time = exposure time); ventilation changed from EV to GV (information on ventilation does not justify EV (> 5 ach))	Yes
HAMMO-3		2.37		7.00	0.34	contextual information indicates PROC3 is more appropriate than PROC2 (ECHA R12: proces not continuous)	duration changed from 1-4hr to >4hr (incorrect adjustment of time; sampling time = exposure time); ventilation changed from EV to GV (information on ventilation does not justify EV (> 5 ach))	Yes
CARLO-1		15.36		35.00	0.44		ventilation changed from EV to GV (information on ventilation does not justify EV (> 5 ach))	Yes
CARLO-2		13.64		35.00	0.39		ventilation changed from EV to GV (information on ventilation does not justify EV (> 5 ach))	Yes
MANE-11		7.38		45.00	0.16		ventilation changed from No to EV and LEV changed from Yes to No (LEV replaced by EV due to limited efficiency)	Yes
Con01/06-4	2.28	0.33		4.20	0.08			Yes
Con06/07-2	1.02	0.20		3.50	0.06			Yes
Con06/07-3	9.86	1.87		4.20	0.45			Yes
Con06/07-4	6.36	1.22		1.40	0.87			Yes
Con06/07-5	3.58	0.68		17.50	0.04			Yes

Reference	Additional info	ID	Category	Task description	Ind/Prof	PROC	Substance	CAS no	MW
CONCAWE 06/07 Appendix 4, reported in Concawe report 18-13 supplementary table S1.17	Kerosine	Con06/07-6	liquids	Filter change	Pro	8a	Kerosine	8008-20-6	128.2
CONCAWE 06/07 Appendix 4, reported in Concawe report 18-13 supplementary table S1.17	Kerosine	Con06/07-7	liquids	Supervisor	Pro	2	Kerosine	8008-20-6	128.2
Concawe report 13-18 (suppl. Table S1.19)	Concawe 9/02	Con09/02-2	liquids	Gasoline blending for research (several m ³) - full shift	Ind	5	Toluene	108-88-3	92.1
Concawe report 13-18 (suppl. Table S1.19)	Concawe 9/02	Con09/02-3	liquids	Road tanker loading and making deliveries (gasoline and diesel) - full shift	Pro	8b	Toluene	108-88-3	92.1
Concawe report 13-18 (suppl. Table S1.19)	Concawe 9/02	Con09/02-4	liquids	Railcar top loading w/o vapour recovery - full shift - mainly gasolines	Ind	8b	Toluene	108-88-3	92.1
Concawe report 13-18 (suppl. Table S1.19)	Concawe 9/02	Con09/02-5	liquids	Railcar top loading with vapour recovery - full shift - mainly gasolines	Ind	8b	Toluene	108-88-3	92.1
Concawe report 13-18 (suppl. Table S1.19)	Concawe 9/02	Con09/02-6	liquids	Service station attendant, no vapour recovery - full shift (gasoline and diesel)	Pro	8b	Toluene	108-88-3	92.1
Concawe report 13-18 (suppl. Table S1.15)	Periago and Prado, Annals Occ Hyg 49 (3); 2005	PERIAGO-1	liquids	Service station attendant, no vapour recovery - full shift (gasoline and diesel)	Pro	8b	Toluene	108-88-3	92.1
Concawe report 13-18 (suppl. Table S1.19)	Concawe 9/02	Con09/02-7	liquids	Service station attendant, with vapour recovery (Stage II) - full shift (gasoline and diesel)	Pro	8b	Toluene	108-88-3	92.1
Concawe report 13-18 (suppl. Table S1.19)	Concawe 9/02	Con09/02-11	liquids	Road tanker offloading at service station (gasoline and diesel)	Pro	8b	Toluene	108-88-3	92.1
Concawe report 13-18 (suppl. Table S1.19)	Concawe 9/02	Con09/02-12	liquids	Drum filler - short term (peak in original report): 20 - 40 barrels	Ind	8b	Gasoline	86290-81-5	73.4
Concawe report 13-18 (suppl. Table S1.19)	Concawe 5/09	Con05/09-2	liquids	R&D blending operator	Ind	5	Gasoline	86290-81-5	73.4
Concawe report 13-18 (suppl. Table S1.19)	Concawe 5/09	Con05/09-3	liquids	Use of gasoline-powered landscaping equipment	Pro	16	Gasoline	86290-81-5	73.4

ID	VP [Pa]	Fugacity	Conc (%)	Duration Category	Indoor/ Outdoor	Ventilation	LEV	RPE	n	Sample time (min)	<LOD	GM (mg/m3)	GM (ppm)	GSD
Con06/07-6	370	Low	>25%	1-4hr	O	Outdoors	No	No	6	41min-115min	0		2.99	2.70
Con06/07-7	370	Low	>25%	>4hr	O	Outdoors	No	No	8	355min -506min	0		0.1	3.32
Con09/02-2	3089	Medium	5-25%	>4hr	I	GV	No	No	6	215 - 487	0		2.12	2.768
Con09/02-3	3089	Medium	5-25%	1-4hr	O	Outdoors	Yes	No	33	220 - 555	10		0.22	2.809
Con09/02-4	3089	Medium	5-25%	>4hr	I	No	no	No	15	210 - 450	1		1.8	5.943
Con09/02-5	3089	Medium	5-25%	>4hr	I	No	yes	No	12	64 - 355	0		0.32	1.936
Con09/02-6	3089	Medium	5-25%	1-4hr	O	Outdoors	No	No	19	252 - 490	2		0.12	1.626
PERIAGO-1	3089	Medium	5-25%	1-4hr	O	Outdoors	No	No	28	NA	NA		0.14	1.6
Con09/02-7	3089	Medium	5-25%	1-4hr	O	Outdoors	Yes	No	7	288 min - 437 min	0		0.04	1.402
Con09/02-11	3089	medium	5-25%	>4hr	O	Outdoors	Yes	No	7	43 - 97	0		0.35	2.281
Con09/02-12	27000	High	>25%	>4hr	I	No	No	No	7	31 - 45	0		87.88	2.157
Con05/09-2	27000	High	>25%	>4hr	I	EV	No	No	7	NA ('shift')	0		2.84	3.703
Con05/09-3	27000	High	>25%	1-4hr	O	Outdoors	No	No	12	1-4 hr	0		0.4	2.56

ID	P75 (mg/m3)	P75 (ppm)	TRA value (mg/m3)	TRA value (ppm)	ratio P75/TRA	Revised setting (ind/pro) and PROC assignment	Revised RMM/OC/PPE assignment	Valid for TRA comparison
Con06/07-6	30.66	5.84		10.50	0.56			Yes
Con06/07-7	1.15	0.22		3.50	0.06			Yes
Con09/02-2	15.9	4.40		21.00	0.21			Yes
Con09/02-3	1.7	0.45		1.26	0.36			Yes
Con09/02-4	22.6	6.30		15.00	0.42			Yes
Con09/02-5	1.9	0.50		0.75	0.67			Yes
Con09/02-6	0.6	0.16		12.60	0.01			Yes
PERIAGO-1	0.8	0.21		12.60	0.02			Yes
Con09/02-7	0.2	0.05		1.80	0.03			Yes
Con09/02-11	2.28	0.61		2.10	0.29			Yes
Con09/02-12	444.4	148.10		150.00	0.99			Yes
Con05/09-2	20.66	6.89		75.00	0.09			Yes
Con05/09-3	2.28	0.76		21.00	0.04			Yes

LEGENDA

Pro	bold, italic font, grey background: ECETOC assignment of PROC/RMM/setting deviates from assignment in original publication
518	bold/italic font: vapour pressure in original reference, if no Vp at 20 or 25 °C was available in ECHA database
10.25	bold font, grey background: value recalculated by ECETOC reviewers